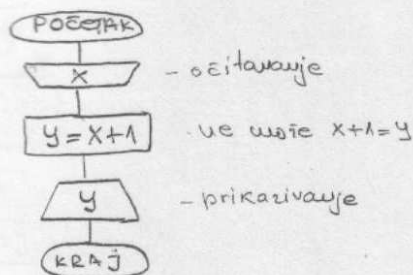
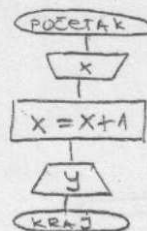


1 Učitati broj x , uvećati njegovu vrednost za 1 i odštampati.



ili

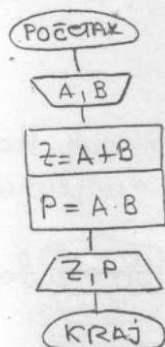


$:=$ simbol za dodelu

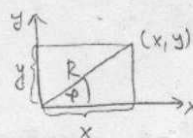
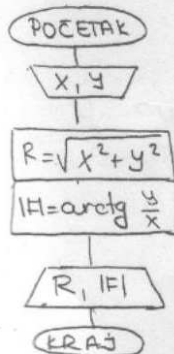
$x == y$ - ako se ispituje da li su x i y jednaki

weja vrednost
 $A = B$ - ostaje isto
 $B = A$ - nije isto

2 Učitati dva broja, izračunati i odštampati njihov zbir i proizvod.



3 Učitati koordinate tačke u prvom kvadrantu Dekartovog koor. sistema. Izračunati i odštampati polarne koor. tačke.

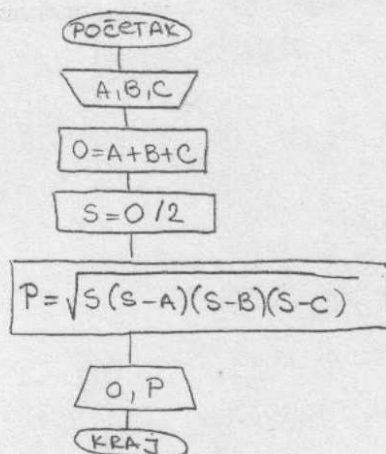


$$R = \sqrt{x^2 + y^2}$$

$$\varphi = \arctg \frac{y}{x}$$

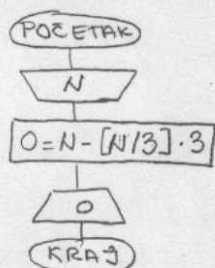
|phi|

4) Za zadati trougao izračunati i odštampati obim i površinu.



5) Učitati prirodan broj, izračunati i odštampati njegov ostatak pri deljenju sa 3.

$[x]$ - ceo deo od x - uvek ceo broj koji nije veći od x



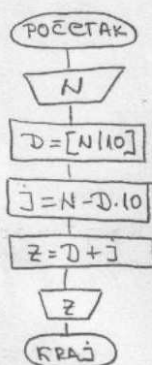
$$N = [N/3] \cdot 3$$

floor - vrši odlaćivanje ka unli ($\text{floor}(-2, 1) = -2$)

$$\text{int}(-2, 1) = -3$$

↓
za pozitivne brojeve su iste

6) Učitati dvocifren broj, izračunati i odštampati njegov zbir cifara.

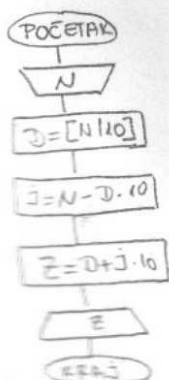


$$23$$

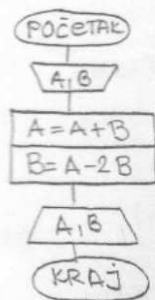
$$D = 2$$

$$J = 3$$

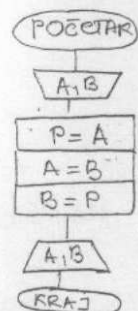
7) Učitati dvocifren broj, izračunati broj zapisan istim ciframa u obrnutom poretku.



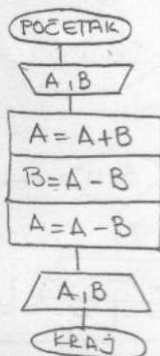
- 8) Učitati dva broja A i B. Izračunati i odštampati njihov zbir i razliku i smestiti ih u promenljive A i B bez uvođenja novih promenljivih.



- 9) Učitati dva broja A i B, zameniti ih vrednosti i odštampati ih.

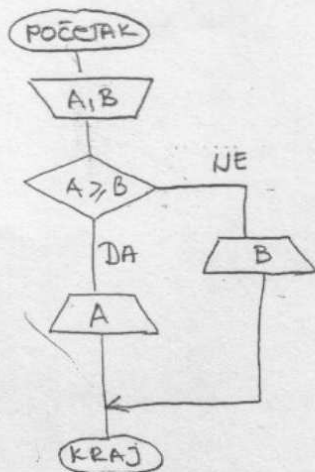


- 10) Učitati dva broja A i B, zameniti ih vrednosti bez uvođenja novih promenljivih.

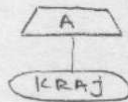


Razgrauate strukture

1 Učitati dva Broja i odštampati veći od njih



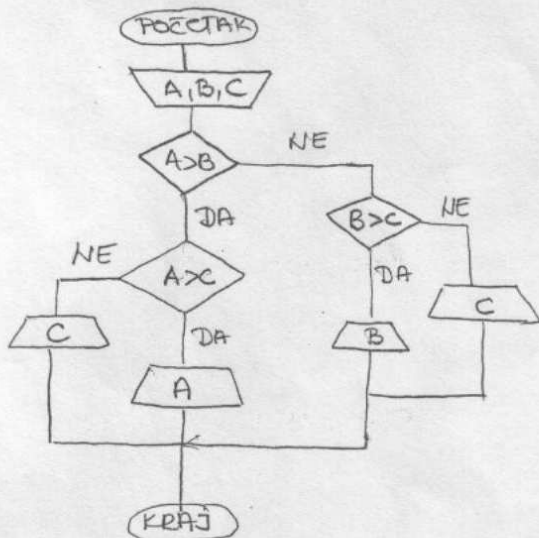
ili



```

a = input('uneti ');
b = input('uneti ');
if a >= b
    disp(a);
else
    disp(b);
end
  
```

2 Učitati tri Broja i odštampati najveći među njima.



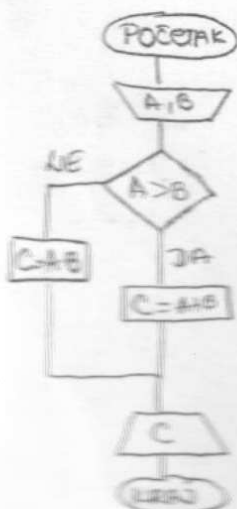
```

a = input(' ');
b = input(' ');
c = input(' ');
if a > b
    if a > c
        disp(a);
    else
        disp(c);
    end
else
    if b > c
        disp(b);
    else
        disp(c);
    end
end
  
```

3 Učitati brojeve A i B i izračunati vrednost C po sledećoj formuli:

$$A > B, C = A + B$$

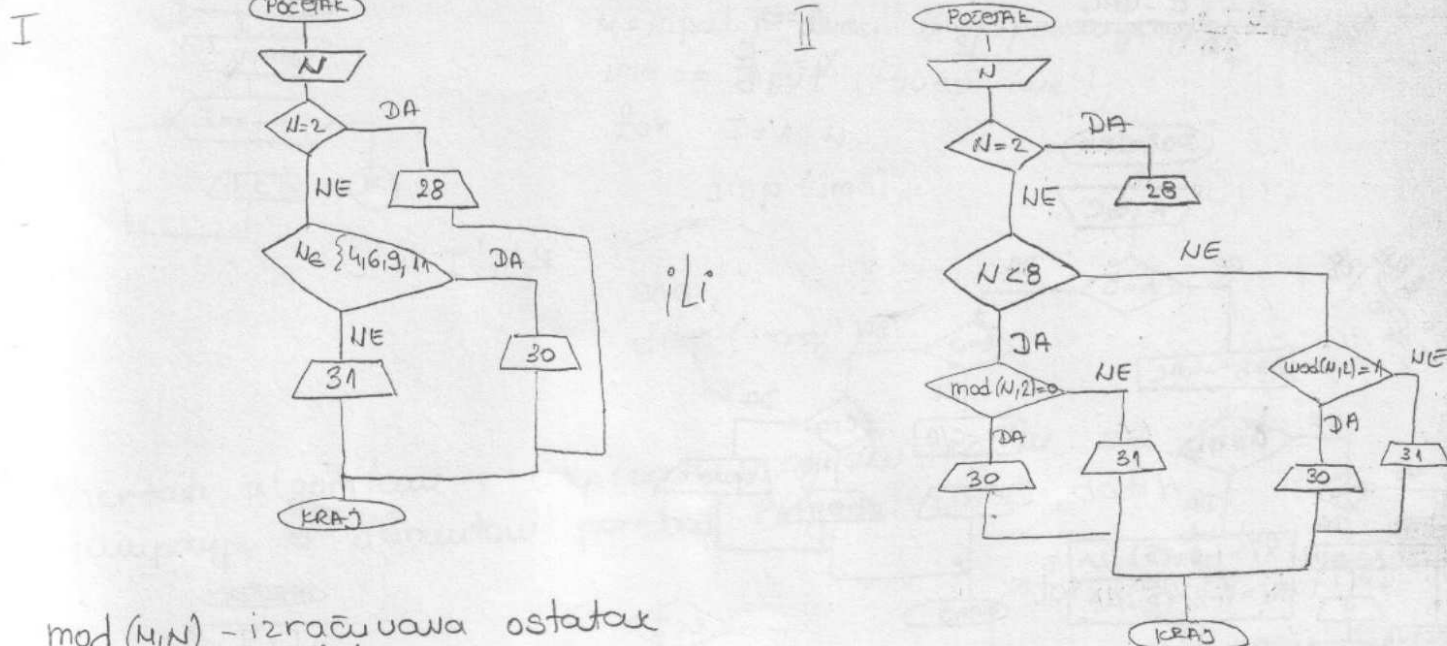
$$A \leq B, C = A \cdot B$$



```

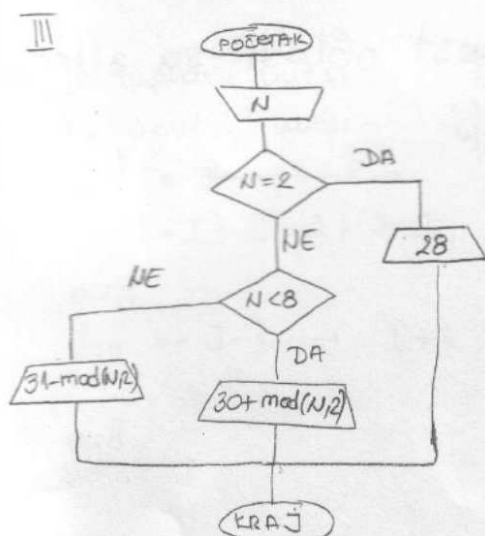
a = input(' ');
b = input(' ');
if a > b
    c = a + b;
else
    c = a * b;
end
disp(c);
  
```


4) Učitati redni broj meseca u prostoj godini. Odstampati broj dana u mesecu.

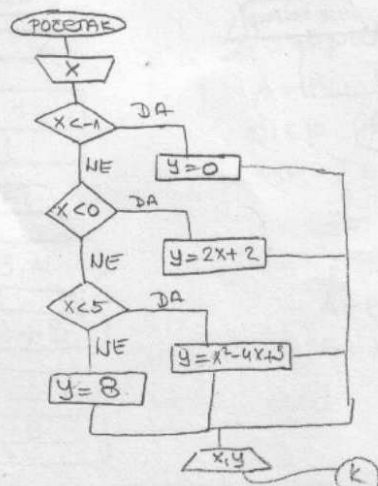


$\text{mod}(M, N)$ - izračunava ostatak pri deljenju M sa N

$\text{mod}(N, 10)$ = cifra jedinica broja N



5) Učitati broj x i izračunati y po formuli: $y = \begin{cases} 0, & x < -1 \\ 2x+2, & -1 \leq x \leq 0 \\ x^2-4x+3, & 0 \leq x < 5 \\ 8, & x \geq 5 \end{cases}$

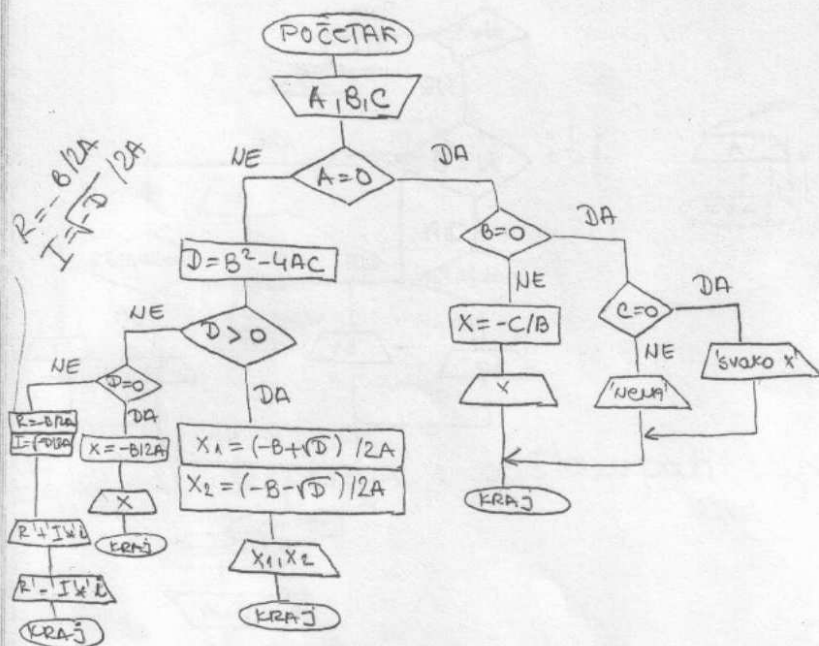


6] Učitati brojeve A, B, C, izračunati i odštampati rešenja kvadratne jednačine $y = Ax^2 + Bx + C$

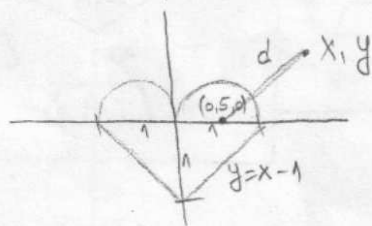
$$x_{1,2} = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$$

$$A=0$$

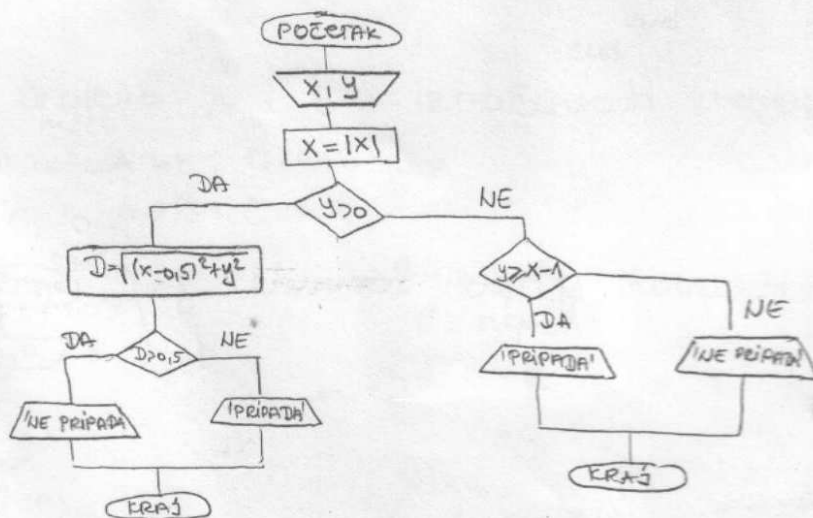
$$x = -\frac{C}{B}$$



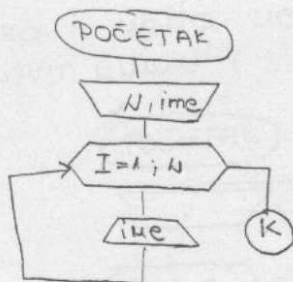
7] Za zadatu tačku ispitati njenu pripadnost oblasti sa slike



* Koristimo simetriju:



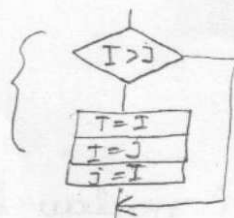
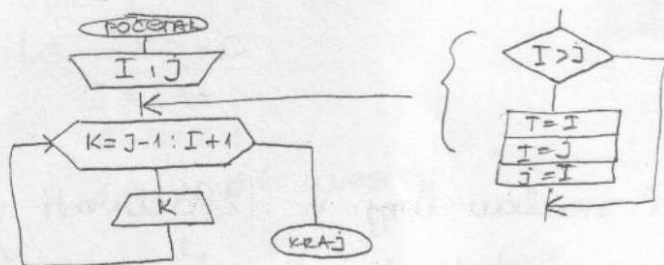
- 1) Učitati broj n i odštampati n puta svoje ime.



```

N=input('unesi broj ponavljanja');
ime=input('unesi ime');
for I=1:N
    disp(ime);
end
disp('kraj');
    
```

- 2) Nacrtati algoritam i uapisati program koji se vrši stampanje u obrnutom poretku brojeva između datih i i j .



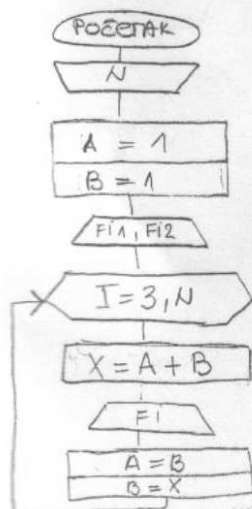
for I=sv:kv:kw
 startva
 krajnja
 korak
 end
 ako je k=1, ne pišemo

```

I=input('unesi ');
j=input('unesi ');
if I>J
    T=I; I=j; j=T;
end
for k=J-1:-1:I+1
    K
end
    
```

- 3) Fibonacijev niz 1, 1, 2, 3, 5, 8, 13, 21

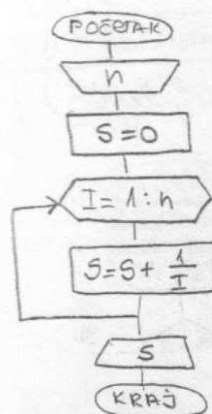
$$F_i = F_{i-1} + F_{i-2}$$



```

N=input('unesi niz');
A=1; B=1;
disp(A,B);
for I=3:N
    X=A+B;
    X
    A=B;
    B=X;
end
    
```


4) Učitava se broj n i izračunava suma $S = \sum_{i=1}^n \frac{1}{i}$ ($= \frac{1}{1} + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n}$)



$N=3$
 $S=0$ $\frac{1}{1}, \frac{1}{1} + \frac{1}{2}, \frac{1}{1} + \frac{1}{2} + \frac{1}{3}$
 $I=1 \ 2 \ 3 \ 4$

$N = \text{input}('...');$

$S = 0$

for $I=1:N$

$S = S + 1/I;$

end

S

5) Učitava se prirodan broj n i realan broj x . Izračunati i odštampati $e^x \approx 1 + \sum_{i=1}^n \frac{x^i}{i!}$

$$S(x) = 1 + \frac{x^1}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots + \frac{x^u}{u!} + \dots$$

$$\frac{x^u}{u!} = \frac{x^{u-1}}{(u-1)!} \cdot \frac{x}{u}$$

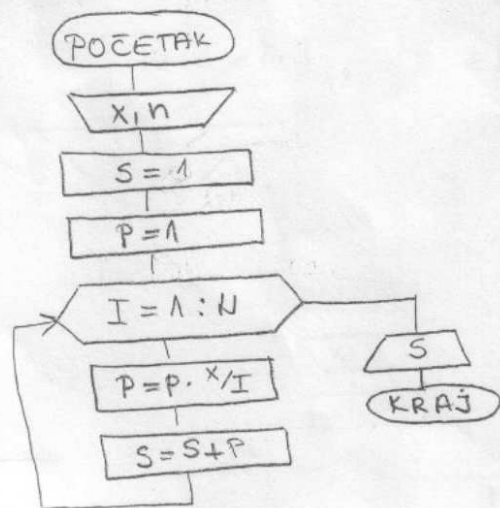
$$S=1 \quad 1 + \frac{x^1}{1!}$$

$$P=1$$

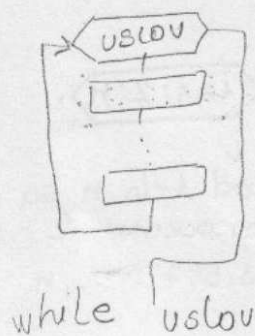
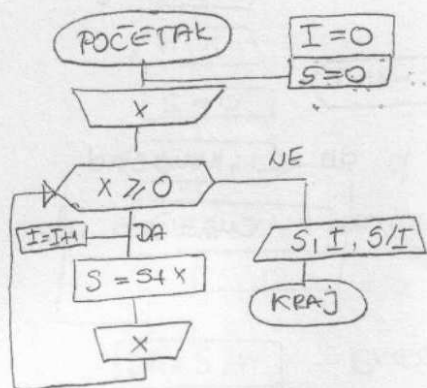
$$I=1 \quad 2$$

$$P = 1 + \frac{x}{1} = \frac{x}{1} = \frac{x^1}{1!}$$

$$\frac{x^1}{1!} + \frac{x}{2} = \frac{x^2}{2!}$$



- 6) Za niz učitanih vrednosti proveriti se izračunava njihovu sumu i ukupan broj učitanih vrednosti. Program prekiniti kada se za X učitava negativan broj. Odštampati učitane vrednosti, njihovu sumu i srednju vrednost.



while uslov
end

```

I=0; S=0;
X=input('... ');
while X >= 0
    I=I+1;
    S=S+X;
    X=input('unesi ... ');
  
```

```

end
if I == 0
    disp('svi negativni');
else
    S/I
end
  
```

==
x=
x=
x=
x=
x= -- rezultat

- 7) Učitati niz vrednosti proveriti se x. Na osnovu učitanih vrednosti sračunati $y = \frac{1}{x} + x + 2$

```

x=input('unesi x');
while (x ~ 0)
    y = 1/x + x + 2;
    y
    x=input('unesi x');
end
disp('kraj');
  
```

APRIL 2008

Ciklusi

$i = 1:n$

↓
od 1 do n
 $i = \text{brojaci}$
 $i = 1:1:n$

$i = 1:2:n$

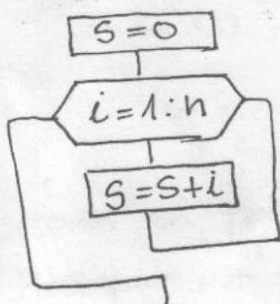
↓
 i od 1 do n sa
korakom 2
1, 3, 5, 7, ..., n

$i = n:-1:1$

↓
 i od n do 1, unazad
-1 je korak (- znači da ide unazad)

Sume

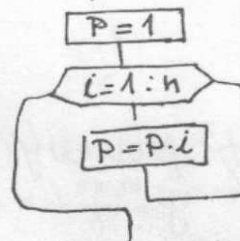
$$S = 1 + 2 + 3 + \dots + n \quad ; \quad S = 1^2 + 2^2 + \dots + n^2$$



$$S = S + i^2$$

$A = \text{A} + 1$
} stara vrednost
nova vrednost

za proizvod:



Pojam uiza

- Dat je niz x dužine n. Odštampati učitane podatke

$x(1), x(2), \dots, x(n)$

$i = 1:n$
 $x(i)$

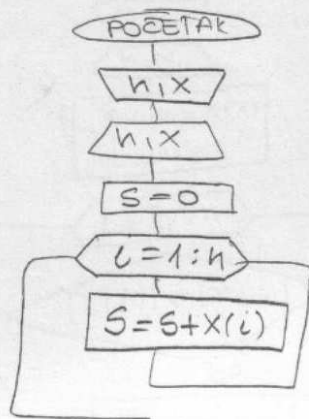
↓
ime
niza

↓
index



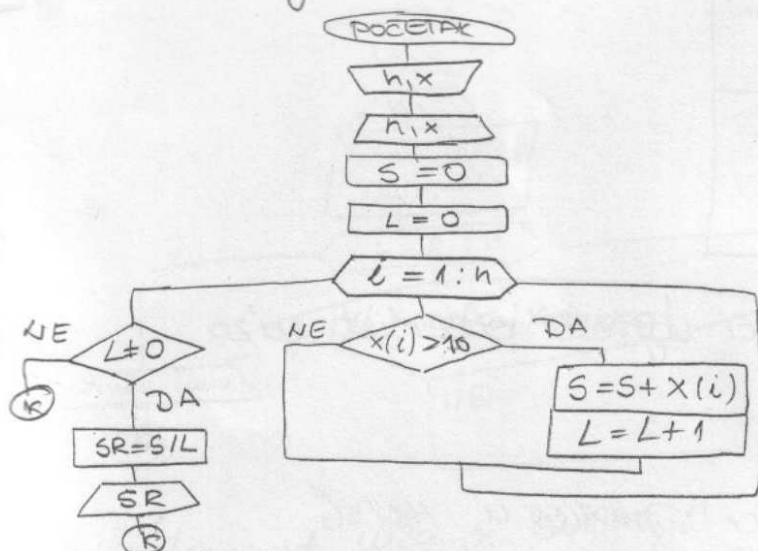
-prvo se unosi dužina
pa niz **OBAVEZNO!**

- 1 Sumirati sve članove viza
 $S = X(1) + X(2) + \dots + X(n)$

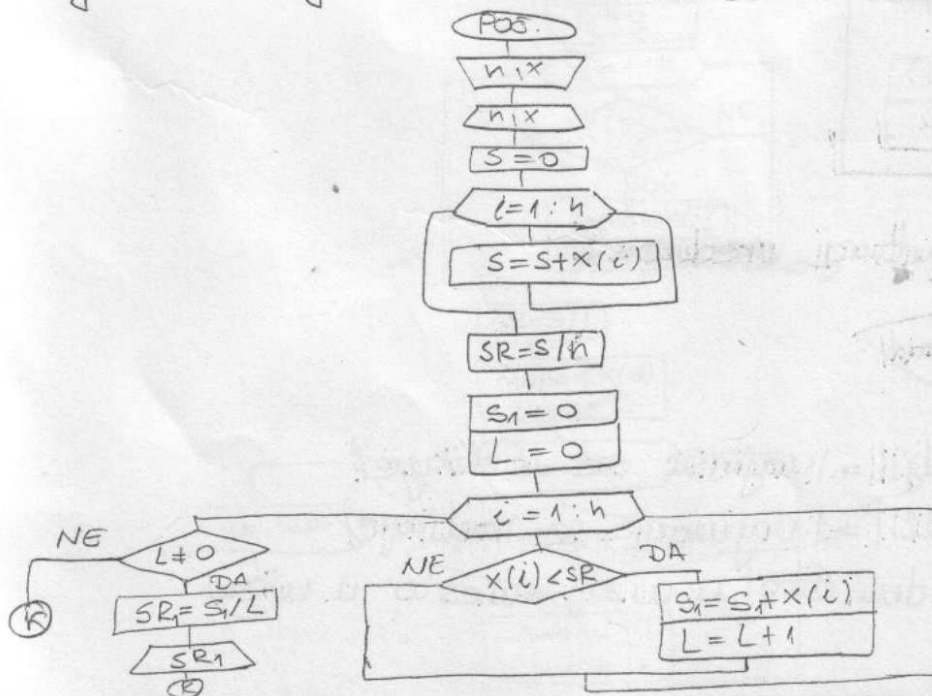


$SR = S/n$ - srednja vrednost viza

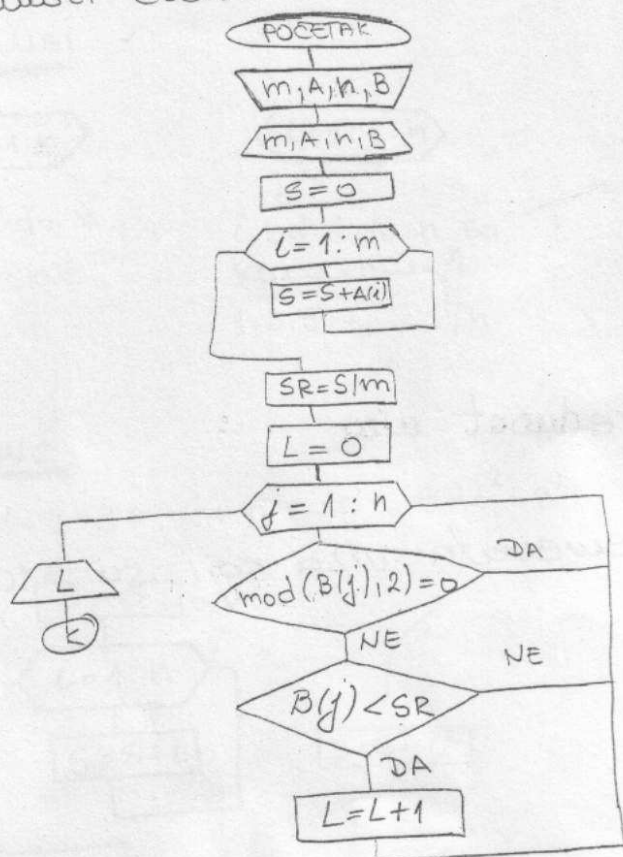
- 2 Naći srednju vrednost elemenata viza koji su > 10



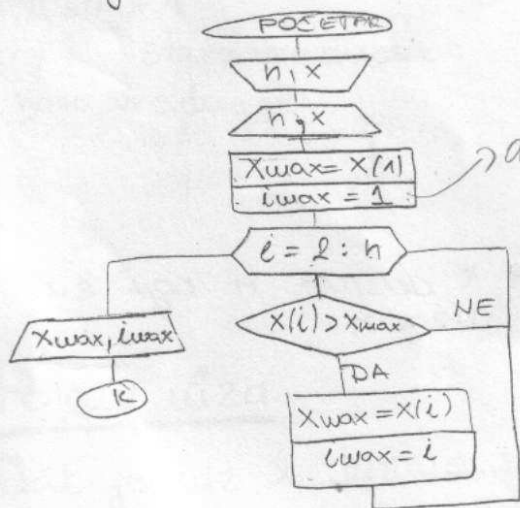
- 3 Naći srednju vrednost elemenata viza x dužine n koji su manji od srednje vrednosti elemenata viza x



- 4) Dati su nizovi A dužine m i B dužine n. Prebrojati koliko ima uparnih elemenata niza B koji su < od srednje vrednosti elemenata niza A



- 5) Dat je niz x dužine n. Naći najveći element niza



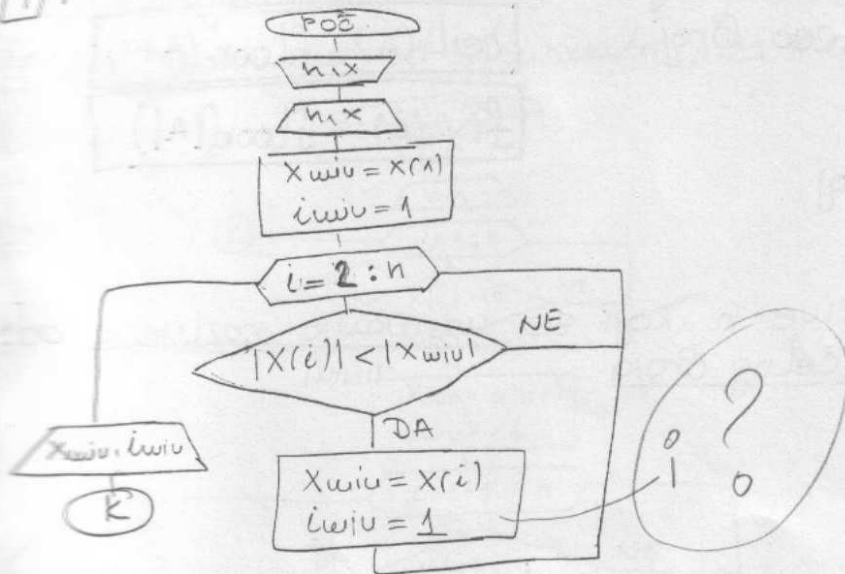
ako se ce uporediti u Herob
apodotnoj y Hury. onga i?

wax, wiu po apsolutnoj vrednosti

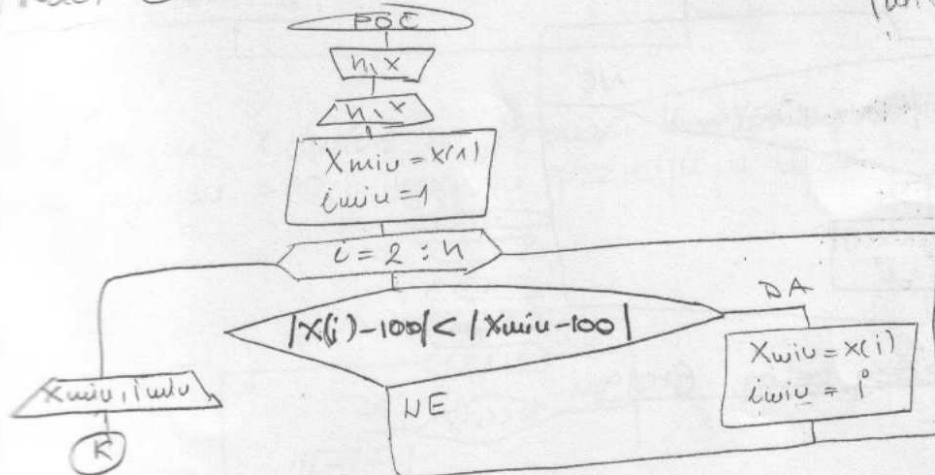
$$|x(i)| > |x_{wax}|$$

wax = najveći = |najdalji| = |najviše se razlikuje/
 wiu = najmanji = |najbliži| = |najmanje se razlikuje/
 pozicija = položaj = redni broj u nizu = mesto u nizu

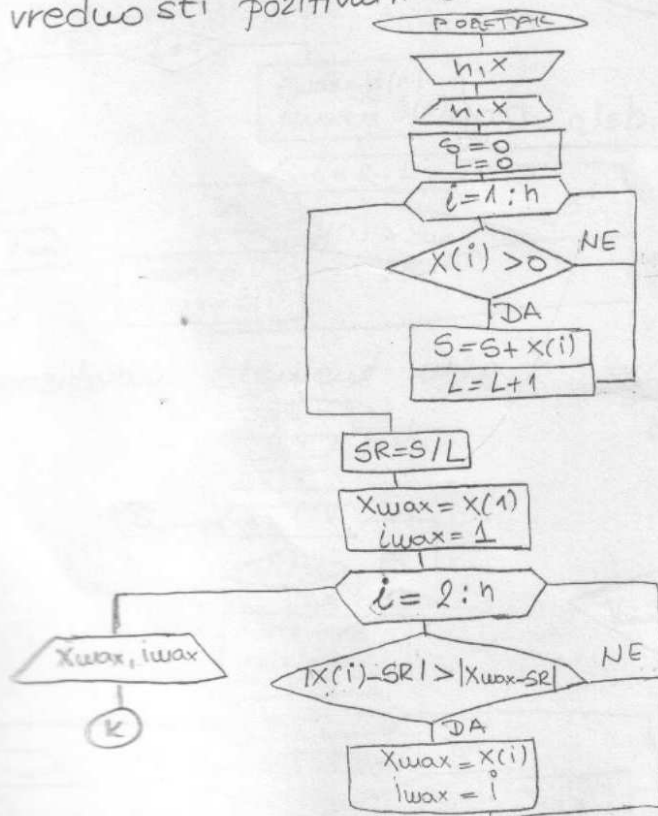
1) Naći element viza x dužine n najbliži 0
 $|w_{min}|$



2) Naći element viza x dužine n najbliži broju 100
 $|w_{min} - 100|$



3) Naći element viza x dužine n koji se najviše razlikuje od
 srednje vrednosti pozitivnih elemenata viza x . $|w_{max}|$



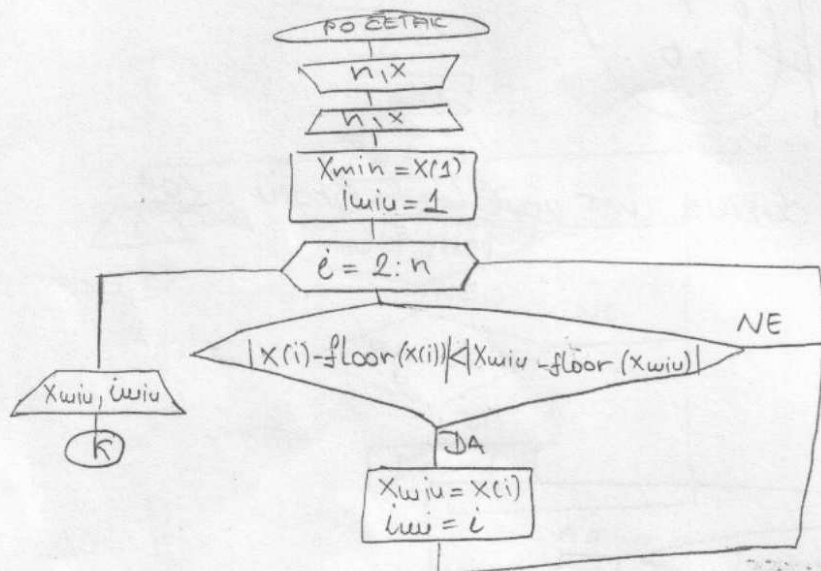
floor - ua vajbliži manji celi broj
 ceil - ua vajbliži veći celi broj
 fix - celi deo broja
 normal - ua vajbliži celi broj

$$\text{ceil}(A) = \text{floor}(A+1)$$

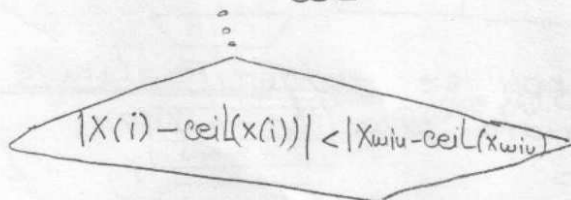
$$\text{fix}(A) = \text{floor}(|A|)$$

- 4) Naći element uiza x dužine n koji se vajmanje razlikuje od:

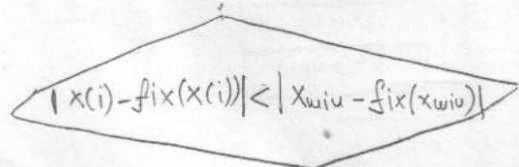
a) između vajbližeg manjeg celog broja
 floor



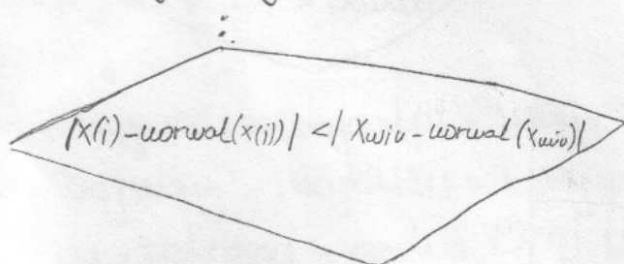
b) od između vajbližeg većeg celog broja
 ceil



c) od između vajbližeg celog dela broja
 fix

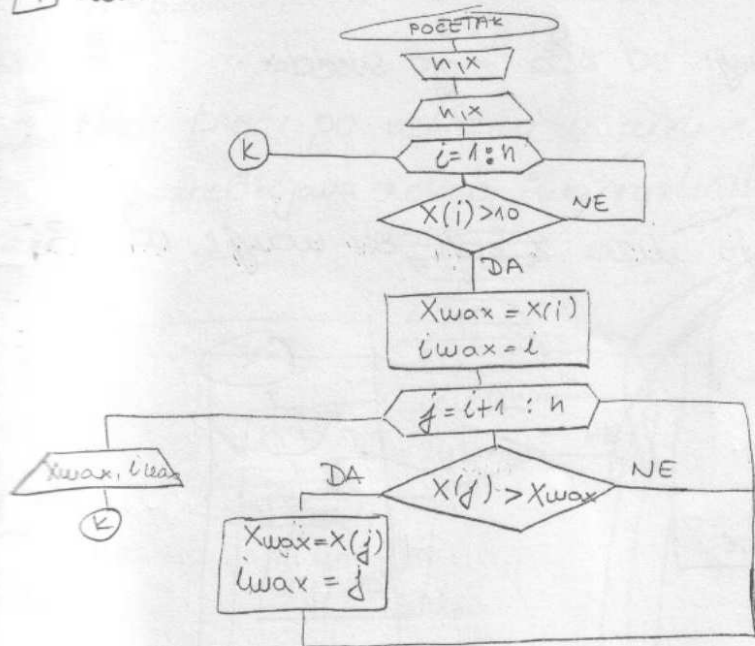


d) između vajbližeg celog broja

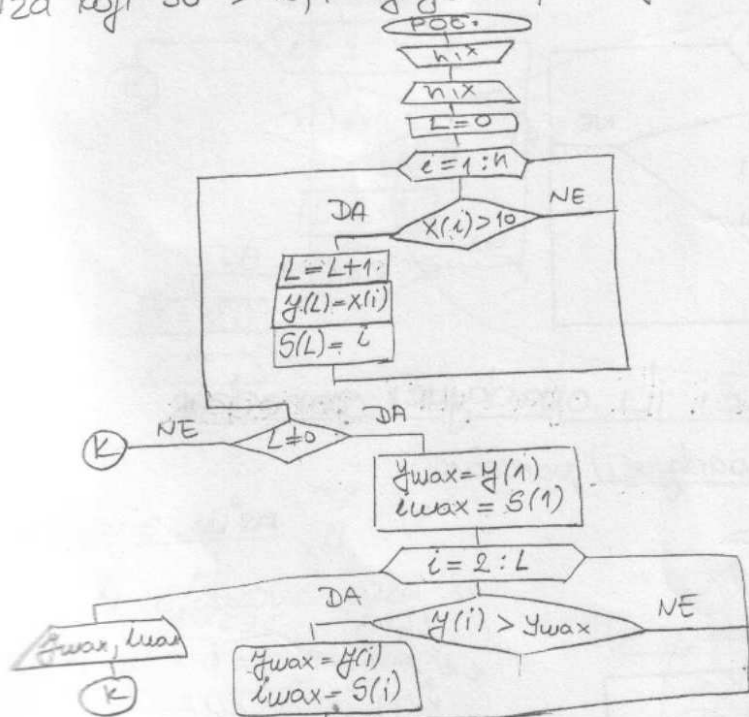


Nalazjenje max/min uz neki uslov

1) Naći maksimum od elementa viza x dužine n koji su > 10

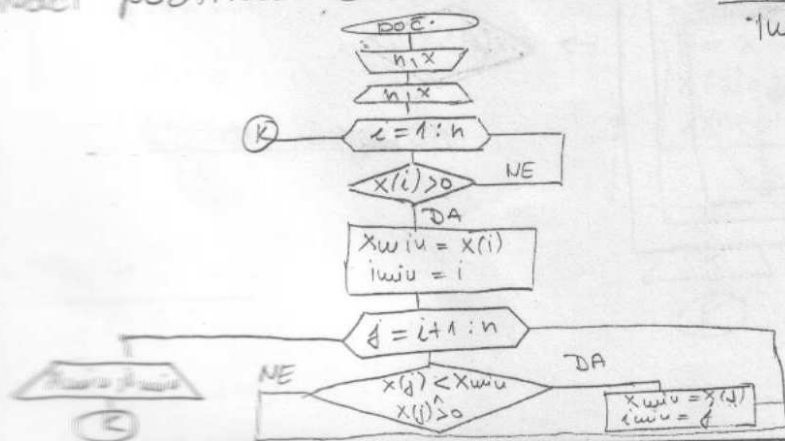


2) Dat je viz x dužine n . Proučiti i odštampati max od elementa viza koji su > 10 , i njegovu poziciju u vizu.



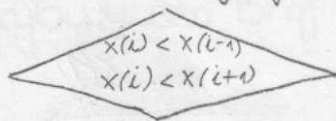
y dužine $L (1 \dots)$

3) Naći pozitivnu element viza x u najbliži 0.

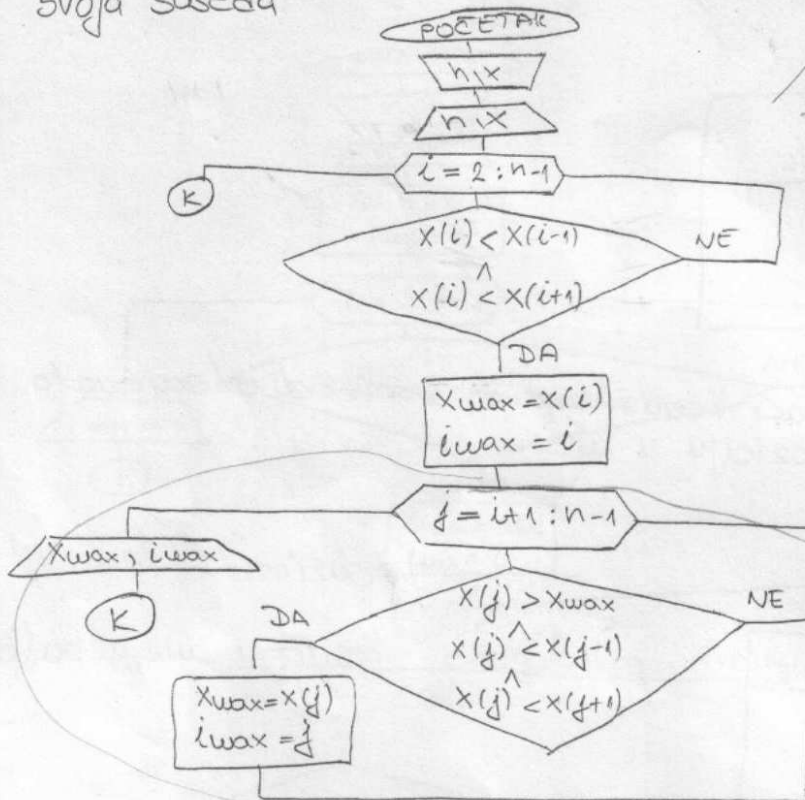


prethodni element $i = 2:n$
 naredni element $i = 1:n-1$
 Oba suseda $i = 2:n-1$

* Naći element uiza x koji je manji od oba svoja suseda

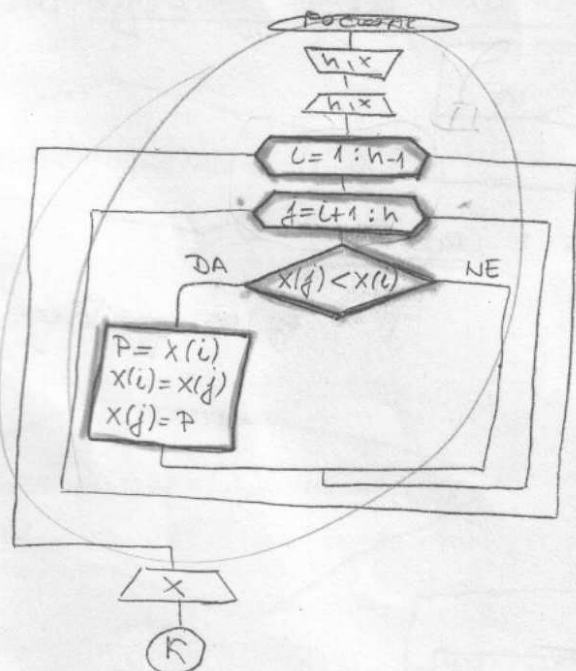


4) Naći max element od elementata uiza x koji su manji od oba svoja suseda



Sortiranje uiza u rastući ili opadajući poredak

1) Sortirati uiz x u rastući (uopadajući) poredak



LEVA $i = 1:n-1$
 $x(i)$
 DESNA $j = i+1:n$
 $x(j)$
 ↓
 uvrstavanje ciklus
 → $x(j) > x(i)$
 opadajući (u rastući)

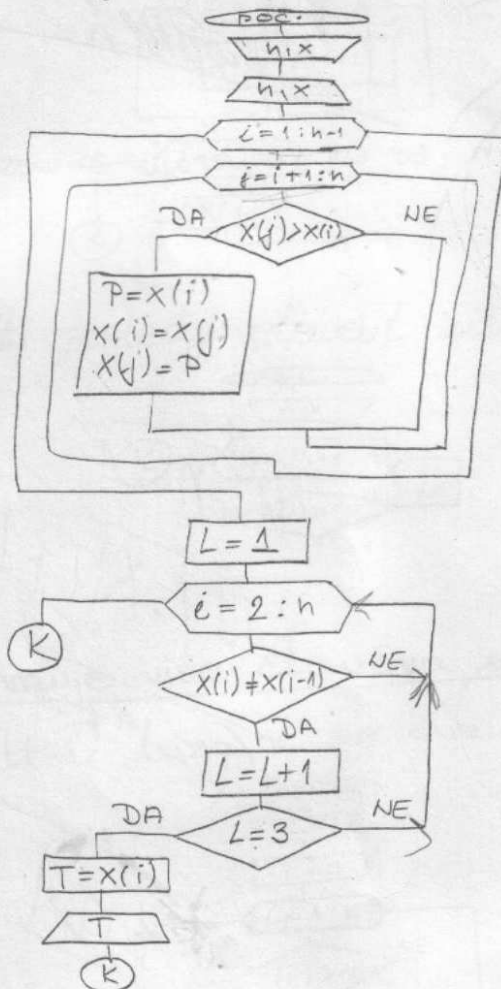
Mezjanje sadržaja ($A=B$, $B=A$):

I $P=A$
 $A=B$
 $B=P$

II $A=A+B$
 $B=A-B$
 $A=A-B$

$T=1:n$
 $J=1:n$

- 2) Naći treći po veličini u nizu x dužine n , sortirano u opadajućem
 L-precenju koliko ima različitih el. u nizu x



Obrtanje niza

- 1) Obrnuti članove niza x

$x_1, x_2, x_3, \dots, x_{n-2}, x_{n-1}, x_n$

$i = 1: \frac{n}{2}$

$x_1 \rightarrow x_{n-1}$

$x_2 \rightarrow x_{n-2}$

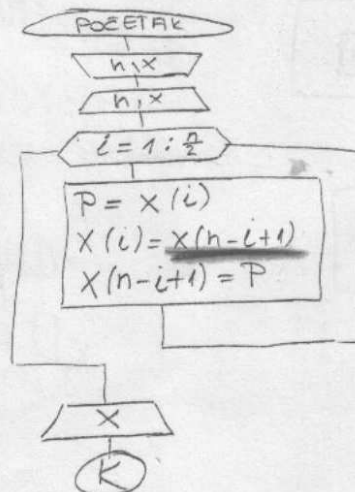
$x_3 \rightarrow x_{n-3}$

\vdots

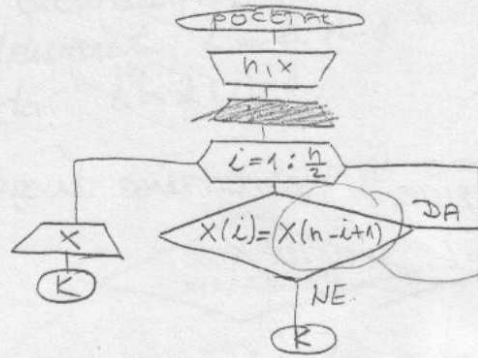
$x_{\frac{n}{2}} \rightarrow \dots$

$i = 1: \frac{n}{2}$

$x(i) = x(n-i+1)$



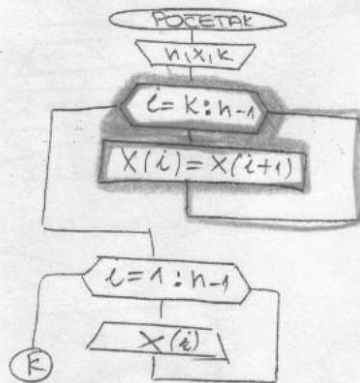
2) Ispitati da li je niz x duzine n simetričan. Ako jeste odštampaj



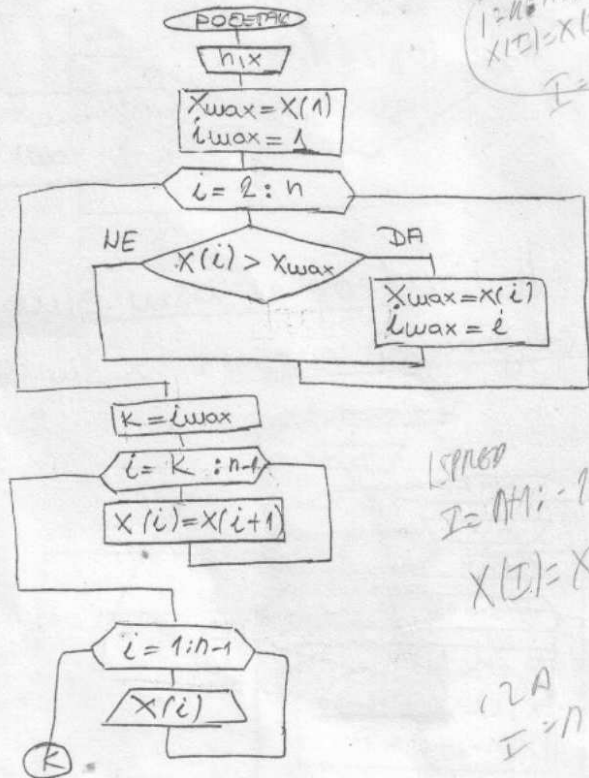
$n-i+1$
Spisak

3) Izbaciti k -ti član niza (od $k+1 - n$ se svi pomeraju za mesto uaz

$X_k \rightarrow X_{k+1}$
 $X_{k+1} \rightarrow X_{k+2}$
 \vdots
 $X_{n-1} \rightarrow X_n$
 \downarrow
 $i = k : n-1$
 $X(i) = X(i+1)$



4) Izbaciti max element niza

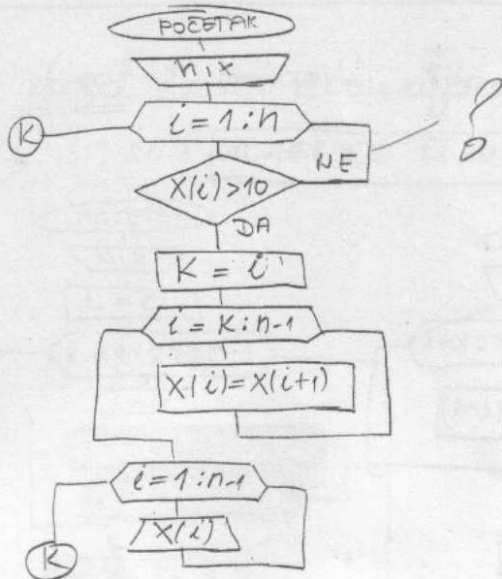


$i = n : n+1$
 $X(i) = X(i+1)$
 $i =$

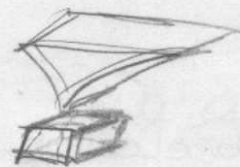
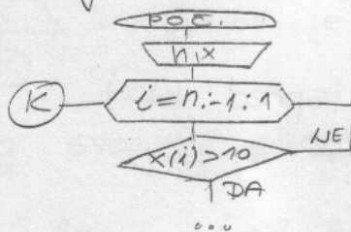
$i = n-1$
 $X(i) = X(i+1)$
 $i = 1: n-1$
 $X(i)$

SPRAB
 $i = n+1 : -1: n+1$
 $X(i) = X(i-1)$
 $i = n+1 : -1: n+2$
 $X(i+1) = X(i-1)$

5) Izbaciti 1. element niza koji je > 10

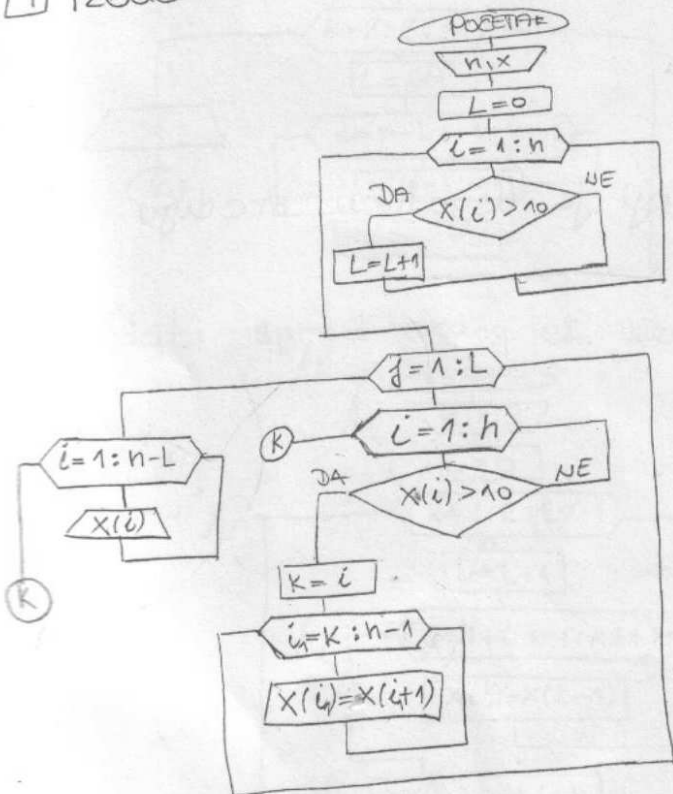


6) Izbaciti poslednji element niza koji je > 10



Izbacivanje više članova niza

1) Izbaciti iz niza x sve one članove koji su > 10



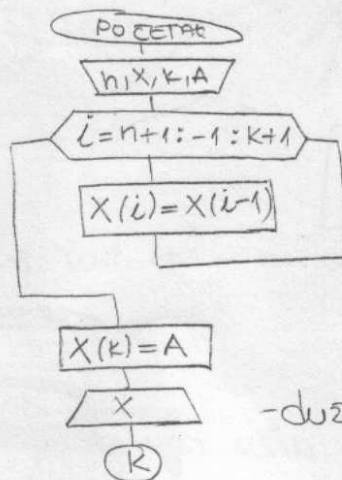
Ubacivanje 1. elementa u niz

1) Ubaciti element A u k-tu poziciju (=ispred k-tog)

* U NIZU SE POMERANJE U DESNO VRŠI OD KRAJA

$X_{n+1} = X_n$
 $X_n = X_{n-1}$
 $X_{n-1} = X_{n-2}$
 \vdots
 $X_{k+1} = X_k$

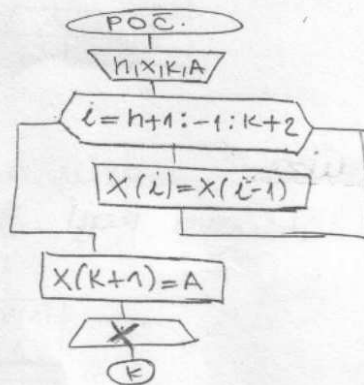
 $i = n+1 : -1 : k+1$
 $X(i) = X(i-1)$
 $X(k) = A$



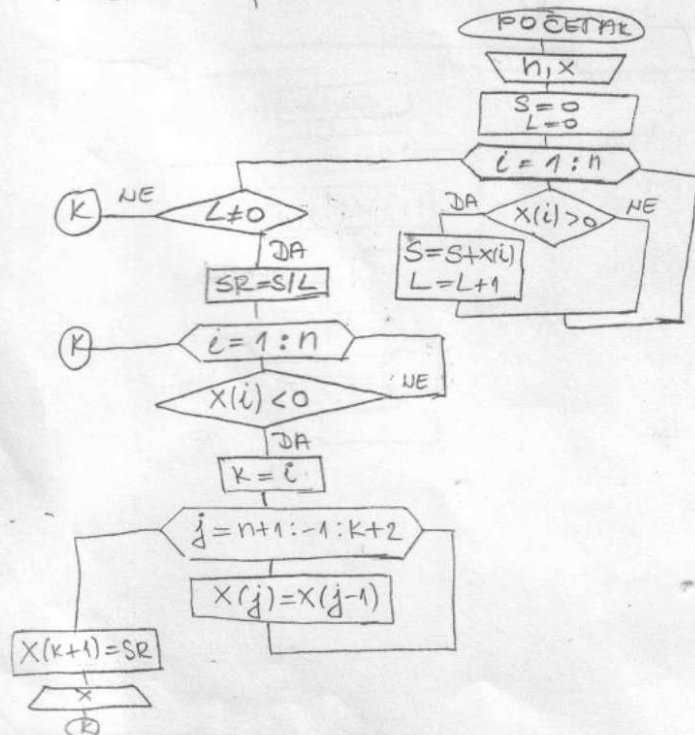
-dužina niza je sada n+1

2) Ubaciti element A iza k-tog (=ispred k+1)

$i = n+1 : -1 : k+2$



3) Ubaciti iza 1 elementa niza x koji je negativan srednju vrednost pozitivnih elemenata.

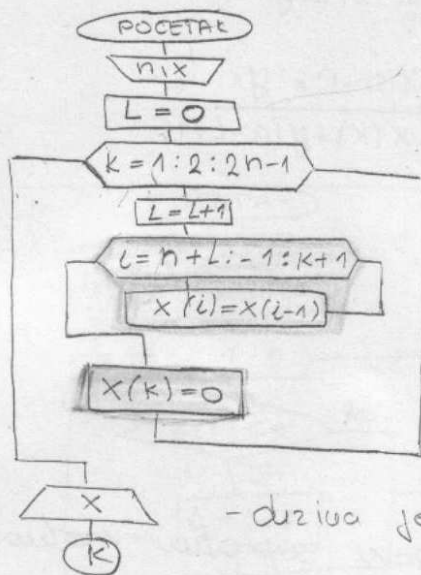


$S = \sum_{i=1}^{n+1} x_i$
 $L = n+1$
 $SR = S / L$

Ubacivanje više elemenata u niz

1. Ubaciti ispred svakog elementa niza x 0

$k=1, 3, 5, 7, \dots, 2n-1$ - pozicije 0 $i=1:2:2n-1$

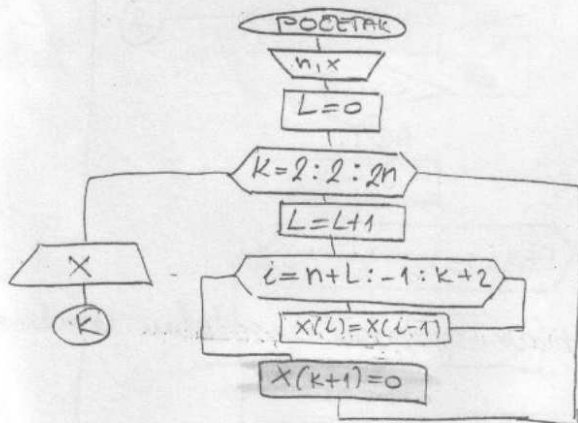


k raste za po 2 broja
 \updownarrow
 dužina niza za 1 - L

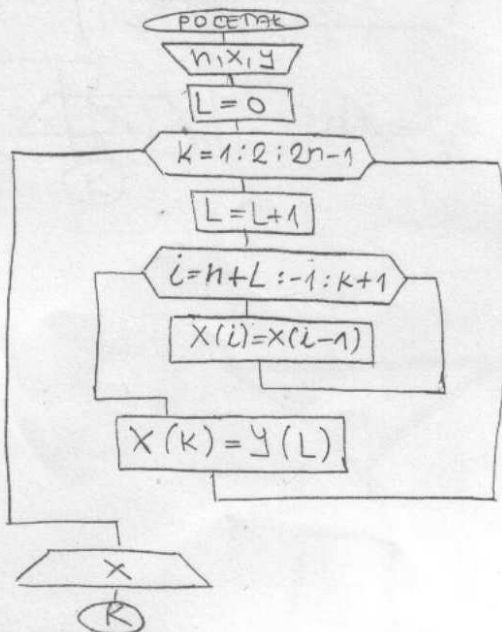
- dužina je sad $2n$

2. Ubaciti iza svakog elementa niza x 0

$k=2, 4, 6, \dots, 2n$ $i=2:2:2n$



3. Ubaciti ispred svakog el. niza x elemente niza y (iduci redom počev od 1)



4] Ubaciti ispred svakog el. viza x elemente viza y iduci obrnuti redom pocev od poslednjeg y_n, y_{n-1} .

$$k = 1, 3, \dots, 2n-1$$

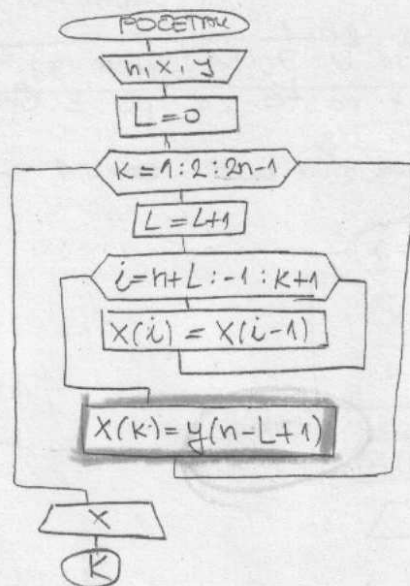
$$x(1) = y_{n-0} \quad L=1$$

$$x(3) = y_{n-1} \quad L=2$$

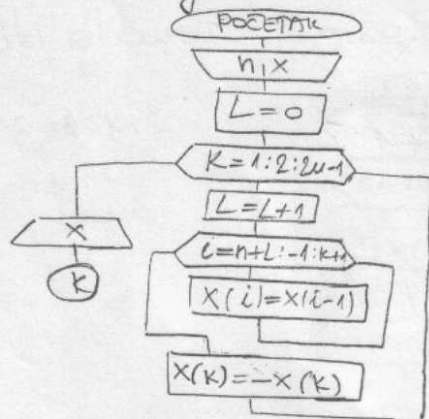
\vdots

$$x(2n-1) = y_1$$

$$x(k) = y(n-L+1)$$

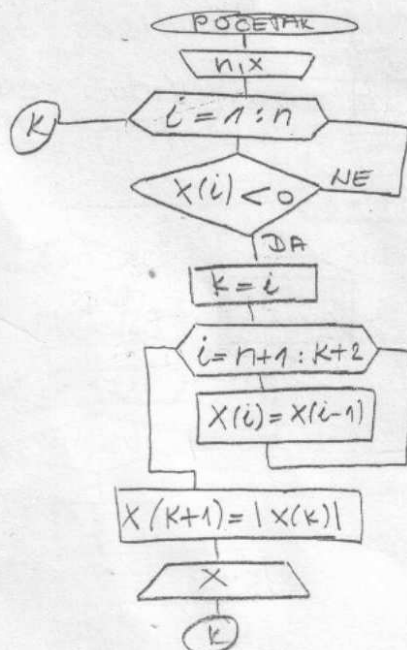


5] Ispred svakog el. viza x ubaciti njegovu suprotnu vrednost



II

1] Ubaciti iza 1. el. viza x koji je negativan njegovu apsolutnu vrednost



$$n+1:-1:n+2$$

$$x(i) = x(i+1)$$

$$x(k+1) = |x(k)|$$

2) Ubaciti iza svakog negativnog elementa uiza x njegovu apsolutnu vrednost

L - broj negativnih

$j = 1 : L$

$j = 1$
 $j = 2$
 $j = 3$
 \vdots

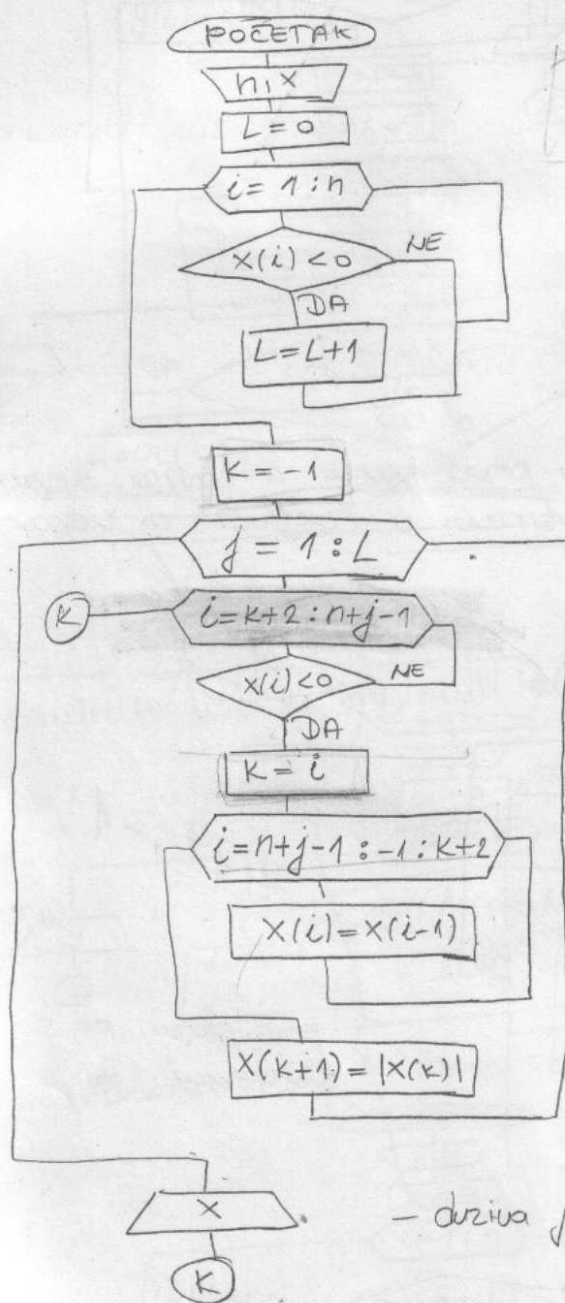
$i = 1 : n$
 $i = k+2 : n+1$
 $i = k+2 : n+2$

- u k je već prvi negativan, a u $k+1$ $|x(k)|$ uiz je produžen za 1

$i = k+2 : n+j-1$

$k = -1$

- u početku da G_i u prvom do G_i 1



- drziva je $n+L$

all

Izmeštajna po vizu

1 Transformisati (= SORTIRATI) viz tako da na početku budu svi parni, a zatim svi neparni članovi.

L - Broji parne

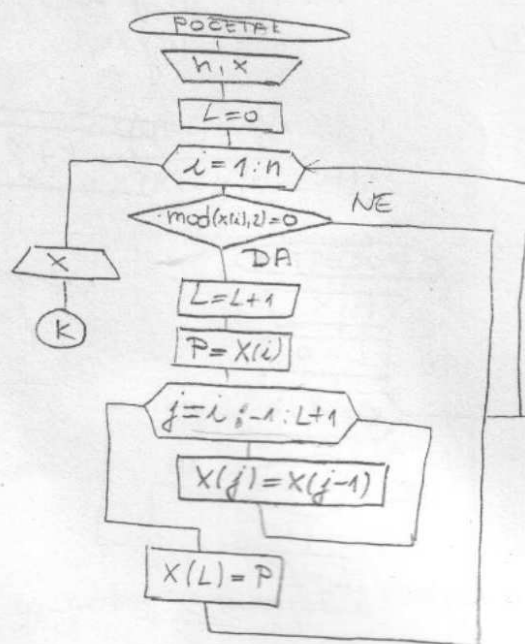
$i = 1 : n$

$i = 3 : P = X_3$
 $X_3 = X_2$
 $X_2 = X_1$
 $X_1 = P$

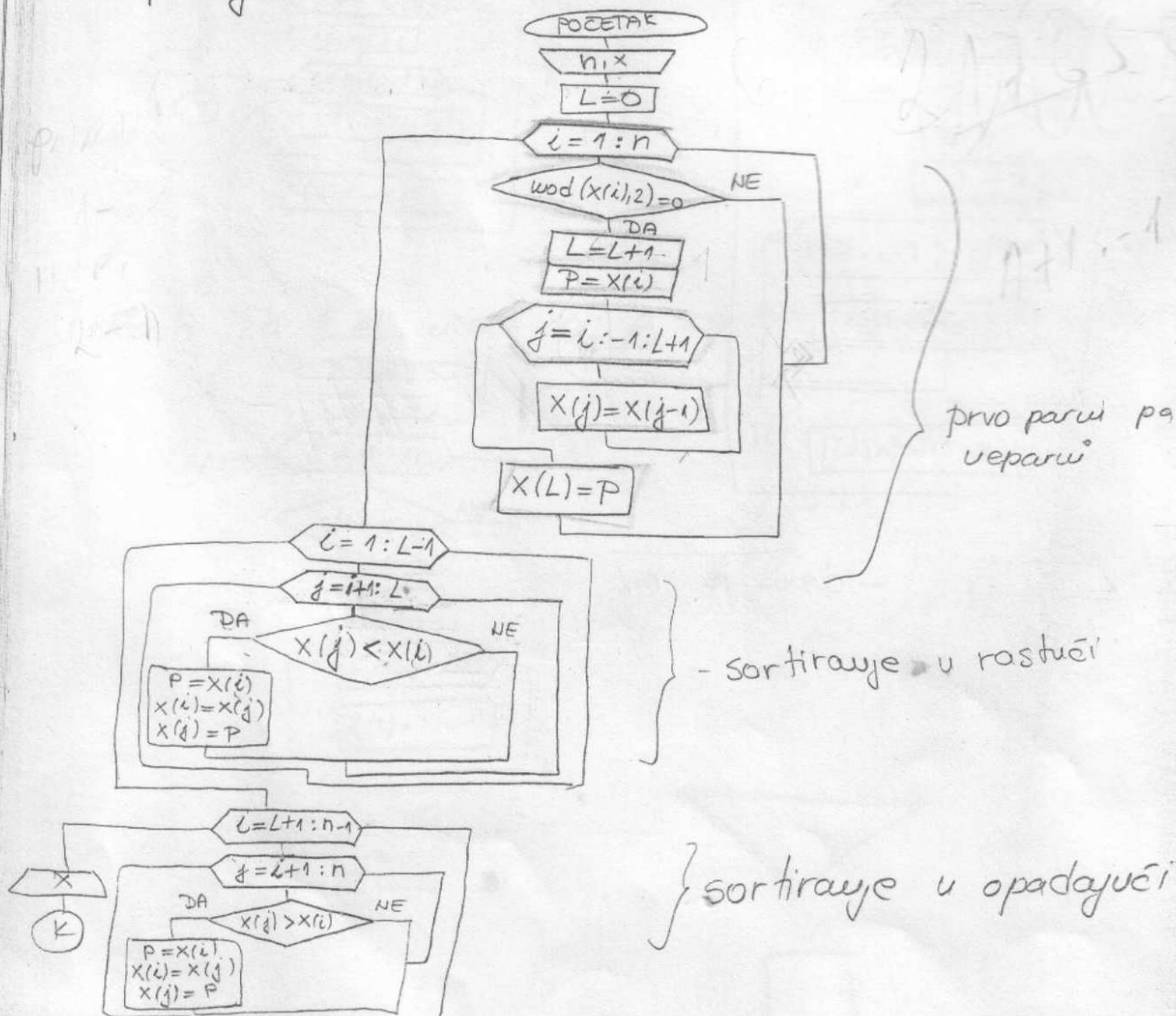
$i = 2 : P = X_2$
 $X_2 = X_1$

$L = 2$
 $X_3 = X_2$
 $X_2 = P$

$j = i - 1 : L + 1$
 $X(j) = X(j - 1)$

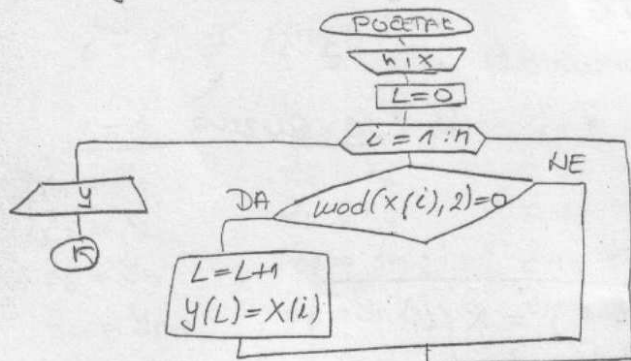


2 Transformisati viz tako da budu prvo parni a zatim neparni članovi, ali tako da parni budu sortirani u rastući, a neparni u opadajući viz.

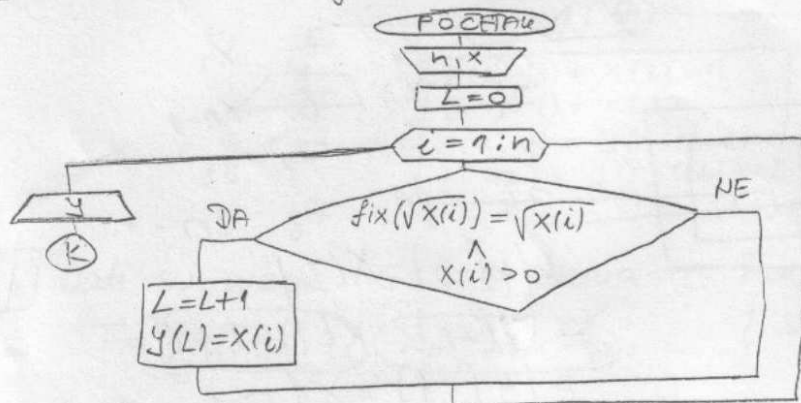


Forwiranje wiza od wiza

1) Dat je wiza x . Forwirati wiza y od parnih el. wiza x .

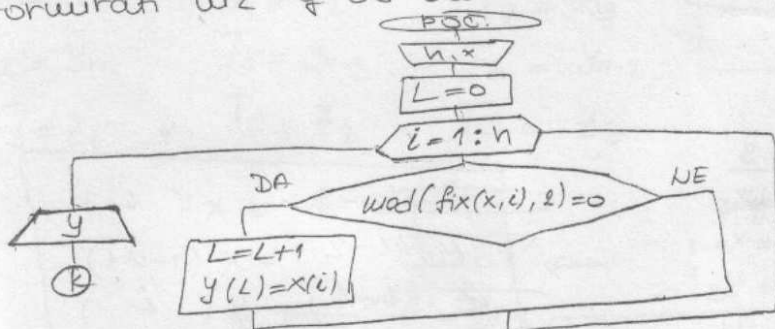


2) Forwirati wiza y od onih el. wiza x koji su prav kvadrat nekog Broja

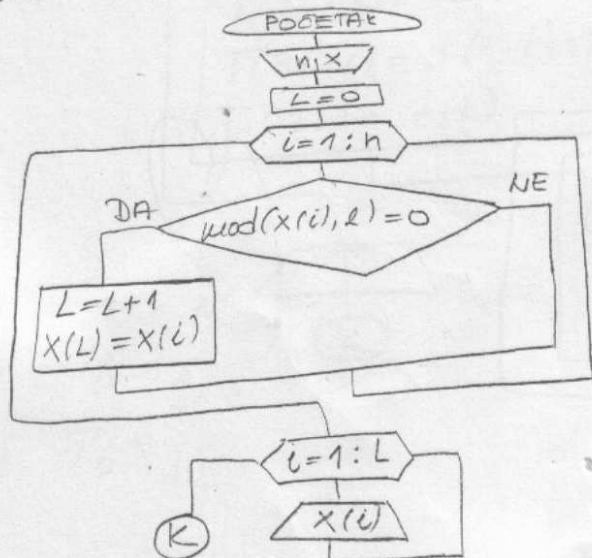


Forwiranje wiza od više

3) Forwirati wiza y od onih el. wiza x čiji je ceo deo paran broj



4) Transforwisati wiza x tako da ostavim samo oni koji su parni



$2 = 1:1$

$1 \times 1 = 1$

Forwiranje wiza od više wizova

$i=1$: Broj grupa koje se ponavljaju

1) Dati su wizovi x i y dužine n . Forwirati wiz z :

$$z = \{ \underbrace{x_1, y_n}_{i=1}, \underbrace{x_2, y_{n-1}}_{i=2}, \underbrace{x_3, y_{n-2}}_{i=3}, \dots, \underbrace{x_n, y_1}_{i=n} \} \rightarrow z \text{ dužine } 2n$$

$$i = 1 : n \quad (2n : 2 = n)$$

$$i=1$$

$$z_1 = x_1$$

$$z_2 = y_n$$

$$i=2$$

$$z_3 = x_2$$

$$z_4 = y_{n-1}$$

$$i=3$$

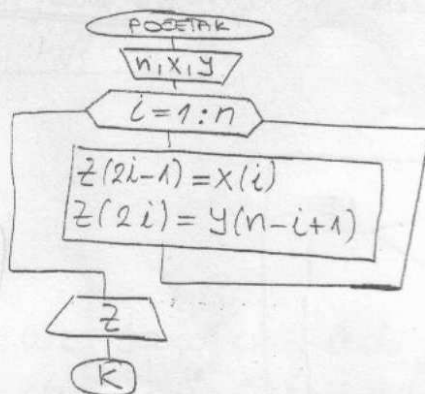
$$z_5 = x_3$$

$$z_6 = y_{n-2}$$

\rightarrow

$$z(2i-1) = x(i)$$

$$z(2i) = y(n-i+1)$$



$$\begin{array}{llll} z_1 & x_1 & z_5 & x_3 \\ z_2 & x_n & z_6 & x_{n-1} \\ z_3 & y_1 & z_7 & y_2 \\ z_4 & y_n & z_8 & y_{n-1} \end{array}$$

$$z(4i-3) = x(i)$$

$$z(4i-2) = x(n-i+1)$$

$$z(4i-1) = y(i)$$

$$z(4i) = y(n-i+1)$$

$\rightarrow z$

2) Dati x i y dužine n , forwirati z

$$z = \{ \underbrace{x_1, x_n, y_1, y_n}_{i=1}, \underbrace{x_2, x_{n-1}, y_2, y_{n-1}}_{i=2}, \dots \}$$

$$i = 1 : \frac{n}{2} \quad (2n : 4 = \frac{n}{2})$$

$$i=1$$

$$z_1 = x_1$$

$$z_2 = x_n$$

$$z_3 = y_1$$

$$z_4 = y_n$$

$$i=2$$

$$z_5 = x_2$$

$$z_6 = x_{n-1}$$

$$z_7 = y_2$$

$$z_8 = y_{n-1}$$

$$i=3$$

$$z_9 = x_3$$

$$z_{10} = x_{n-2}$$

$$z_{11} = y_3$$

$$z_{12} = y_{n-2}$$

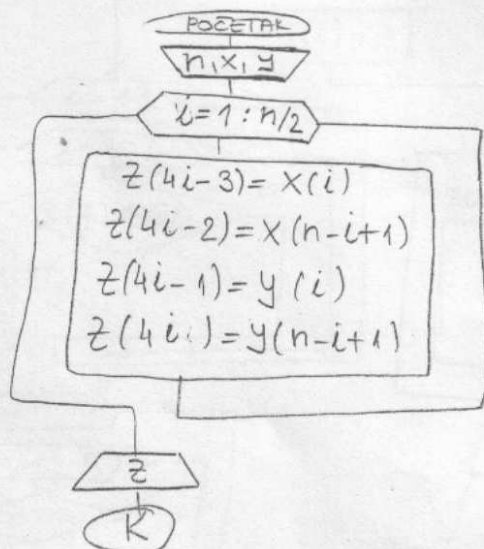
\rightarrow

$$z(4i-3) = x(i)$$

$$z(4i-2) = x(n-i+1)$$

$$z(4i-1) = y(i)$$

$$z(4i) = y(n-i+1)$$



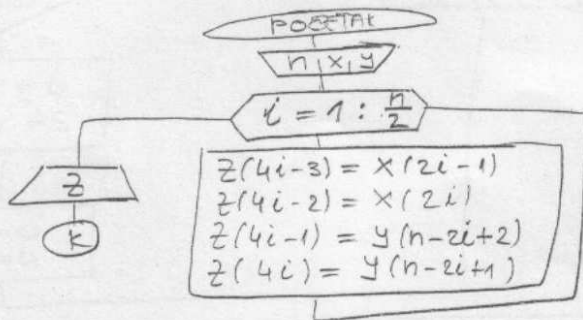
3) Dati su x i y dužve n , formirati z

$$z = \{ \underbrace{x_1, x_2, y_n, y_{n-1}}_{\text{X3, X4, Yn-2, Yn-3}} \dots \} \rightarrow z_{2n}$$

$$i = 1 : \frac{n}{2} \quad (2n : 4 = \frac{n}{2})$$

$i=1$	$i=2$	$i=3$
$z_1 = x_1$	$z_5 = x_3$	$z_9 = x_5$
$z_2 = x_2$	$z_6 = x_4$	$z_{10} = x_6$
$z_3 = y_n$	$z_7 = y_{n-2}$	$z_{11} = y_{n-4}$
$z_4 = y_{n-1}$	$z_8 = y_{n-3}$	$z_{12} = y_{n-5}$

$$\begin{aligned} z(4i-3) &= x(2i-1) \\ z(4i-2) &= x(2i) \\ z(4i-1) &= y(n-2i+2) \\ z(4i) &= y(n-2i+1) \end{aligned}$$



1	x_1	5	x_5
2	x_2	6	x_6
3	y_n	7	y_{n-2}
4	y_{n-1}	8	y_{n-3}

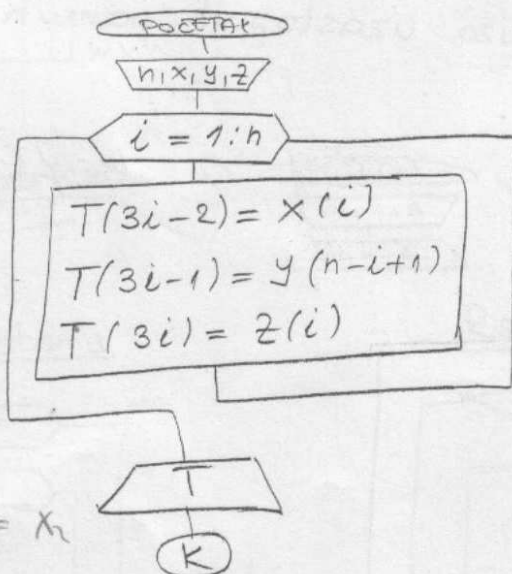
4) Dati su nizovi x, y i z dužve n . Formirati niz T

$$T = \{ \underbrace{x_1, y_n, z_1}_{\text{X2, Yn-1, Z2}} \dots \} \rightarrow T_{3n}$$

$$i = 1 : n \quad (3n : 3 = n)$$

$i=1$	$i=2$	$i=3$
$T_1 = x_1$	$T_4 = x_2$	$T_7 = x_3$
$T_2 = y_n$	$T_5 = y_{n-1}$	$T_8 = y_{n-2}$
$T_3 = z_1$	$T_6 = z_2$	$T_9 = z_3$

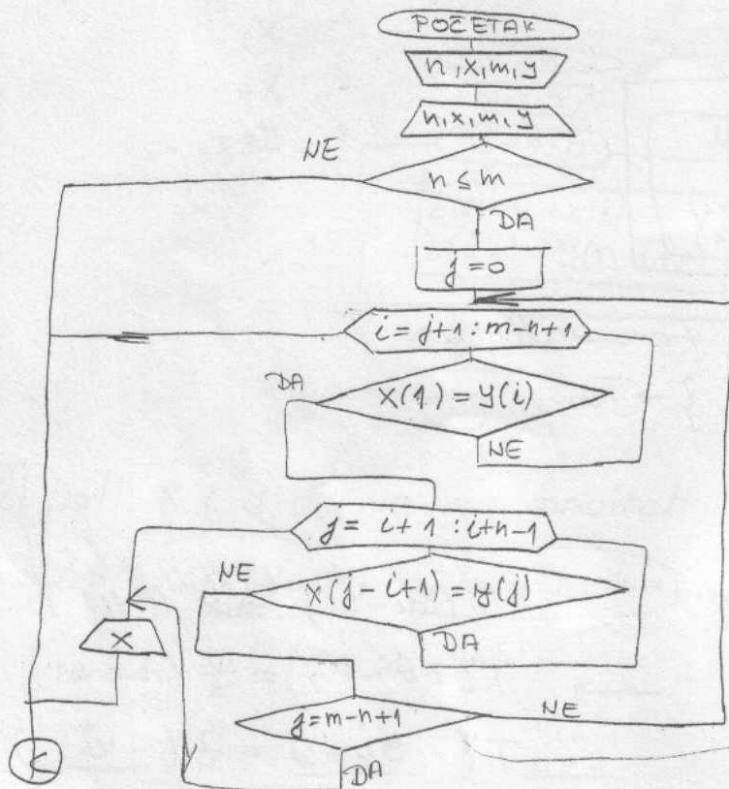
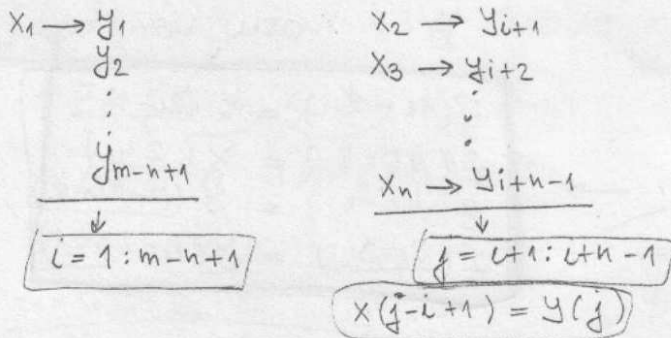
$$\begin{aligned} T(3i-2) &= x(i) \\ T(3i-1) &= y(n-i+1) \\ T(3i) &= z(i) \end{aligned}$$



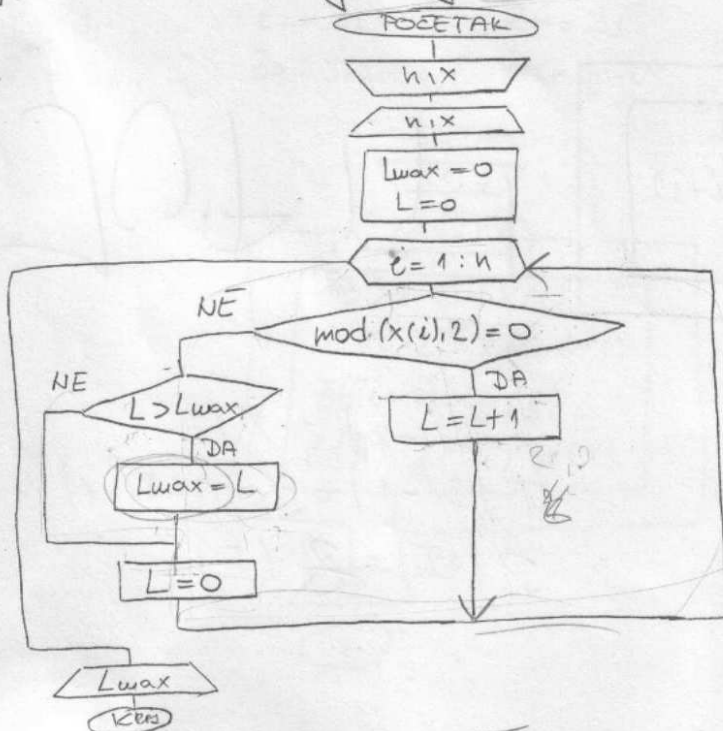
$T_1 = x_1$	$T_4 = x_2$
$T_2 = y_n$	$T_5 = y_{n-1}$
$T_3 = z_1$	$T_6 = z_2$

Rad sa podviziwiwa

1) Ispitati da li je niz x dužine n podviziwiwa y dužine m .

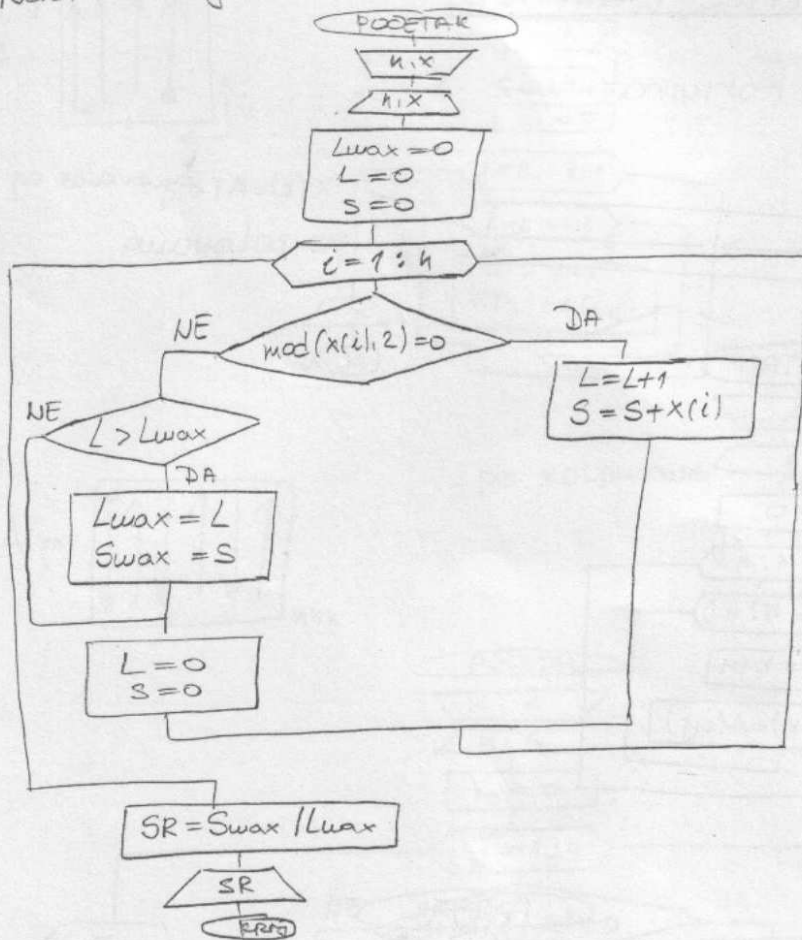


2) Naći dužinu najdužeg podniza uzastopnih parnih brojeva

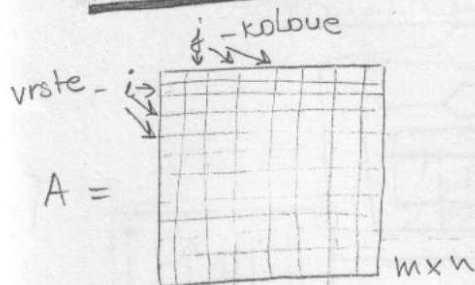


1 2 4 6 7 1, 2, 8

3) Naci srednju vrednost ujedružen poduiza uzastopnih parvih Brojeva.



MATRICE

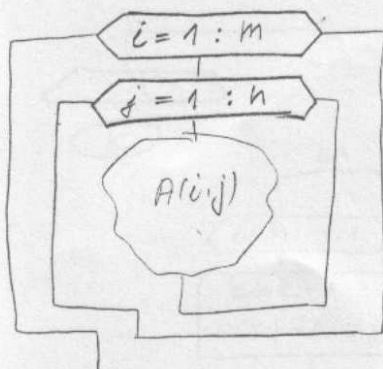


$A(i, j)$
vrste kolone

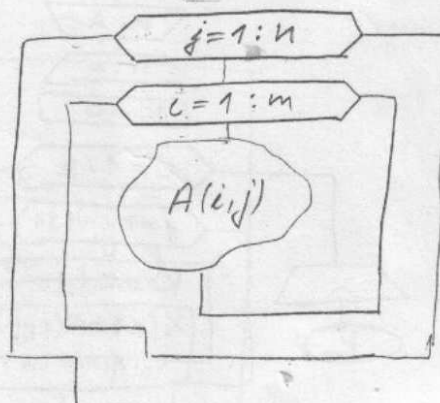
Učitavanje matrice:



Rad po vrstama



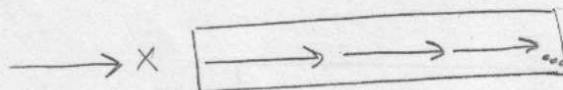
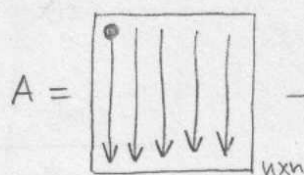
Rad po kolonama



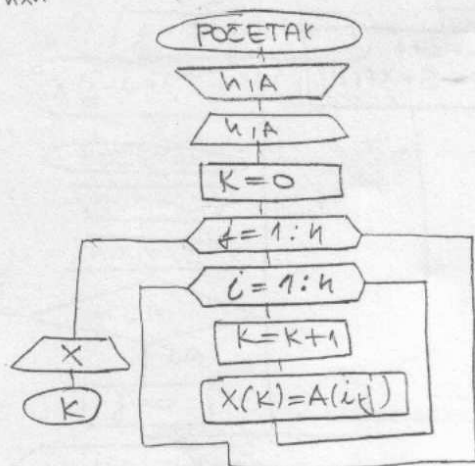
Formiranje niza od matrice i obrnuto

I Data je matrica $A_{n \times n}$. Formirati niz X :

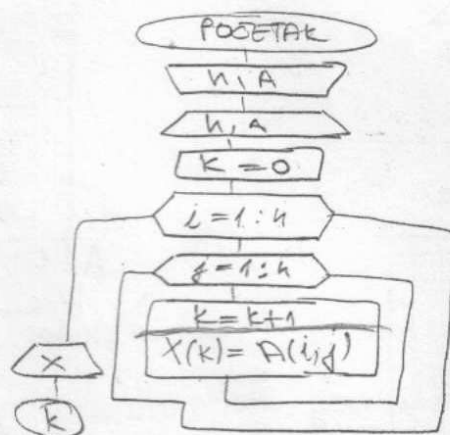
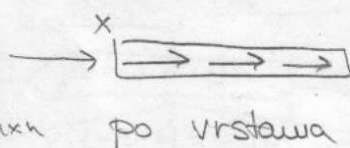
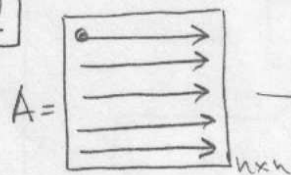
1



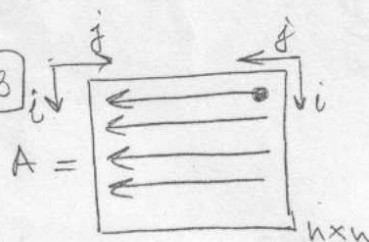
$X(k) = A(i, j)$
po kolonama



2

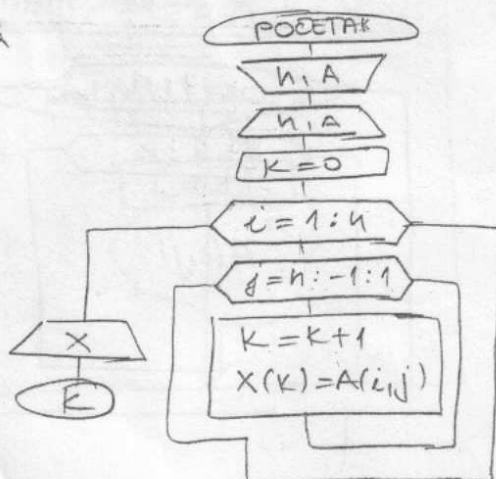


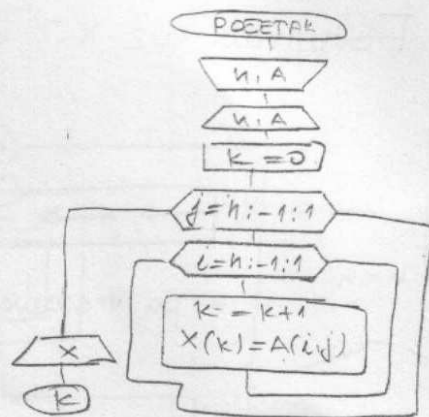
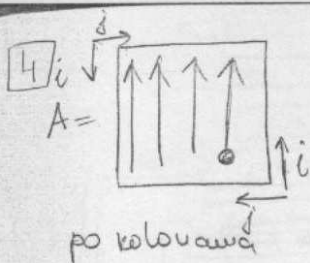
3



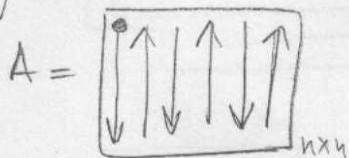
po vrstama

$i = 1:n$
 $j = n:-1:1$





5

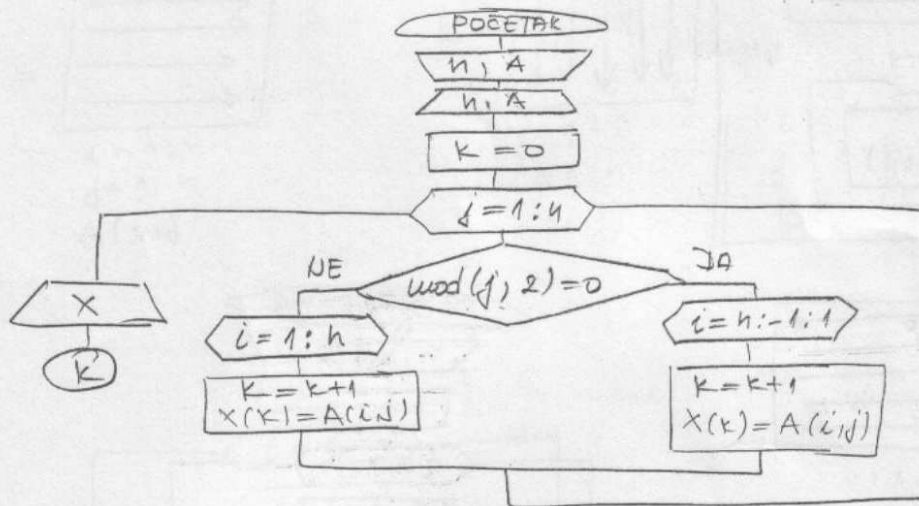


- po kolumnie $j = 1:n$

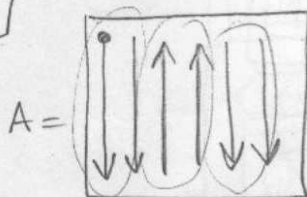
$j = 1, 3, \dots, n-1$
 $j = 2, 4, \dots, n$

$i = 1:n$

$i = n-1:1$



6



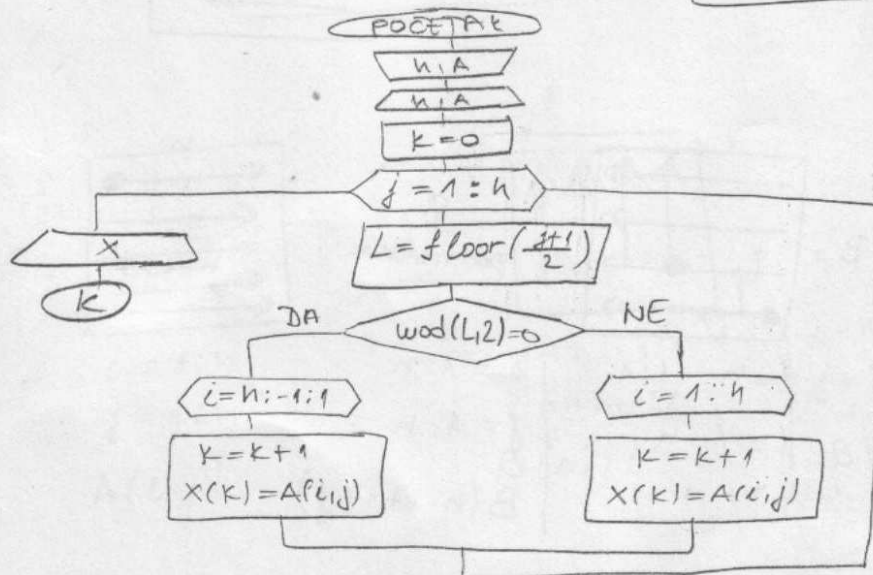
- po kolumnie $j = 1:n$

$j = \begin{matrix} 1 \\ 2 \end{matrix} \} L=1$
 $j = \begin{matrix} 5 \\ 6 \end{matrix} \} L=3$
 $i = 1:n$

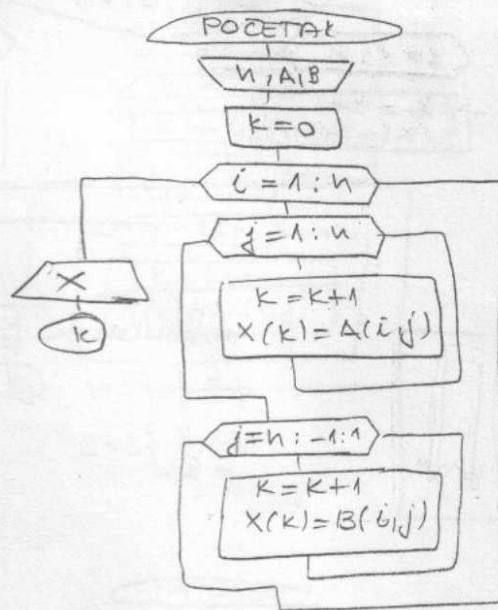
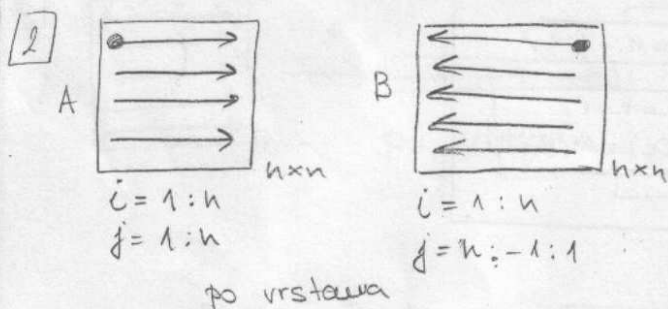
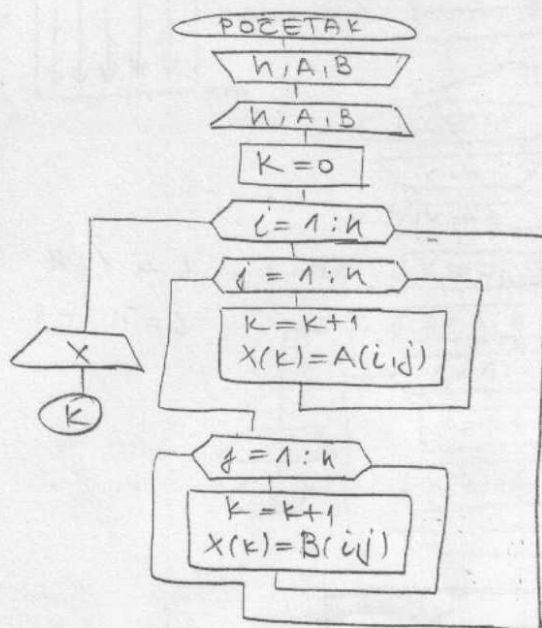
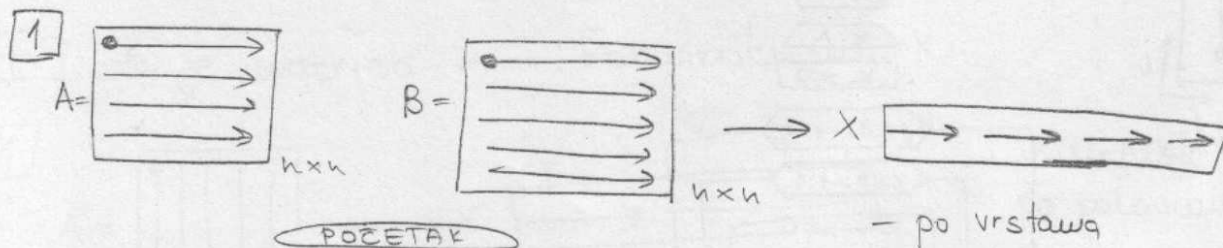
L - Grupa

$j = \begin{matrix} 3 \\ 4 \end{matrix} \} L=2$
 $j = \begin{matrix} 7 \\ 8 \end{matrix} \} L=4$
 $i = n-1:1$

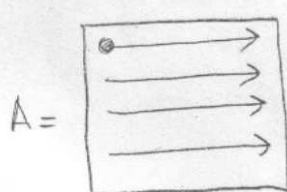
$$L = \text{floor}\left(\frac{j+1}{2}\right)$$



II Daje su matrice A i B reda n. Forwirati wiz X:



3



$i=1:n$
 $j=1:n$
 $A(i,j)$



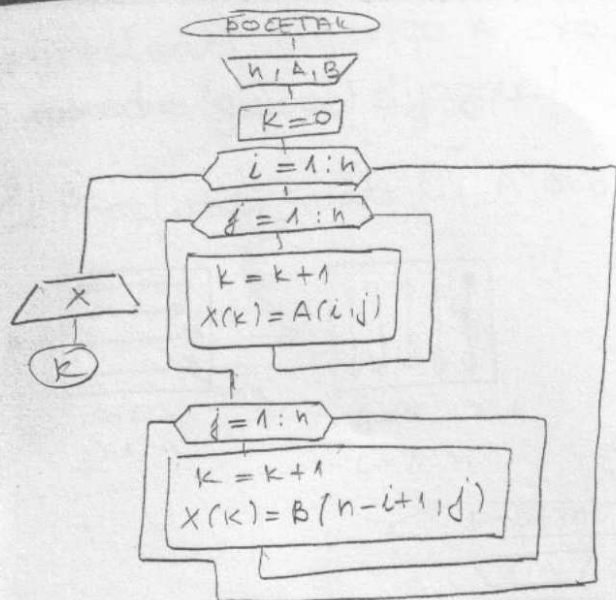
$i=n:-1:1$
 $j=1:n$
 $B(i,j)$

po vrstava

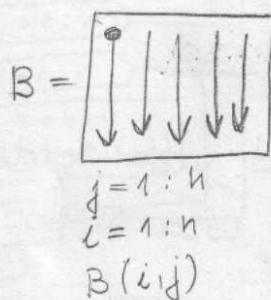
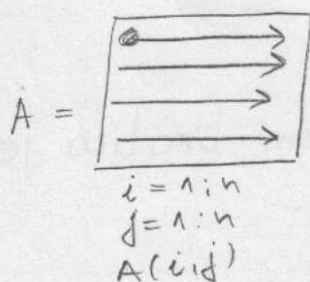
$i=1:n$
 $j=1:n$
 $B(n-i+1, j)$

n
 $n-1$
 $n-2$
 $n-i+1$

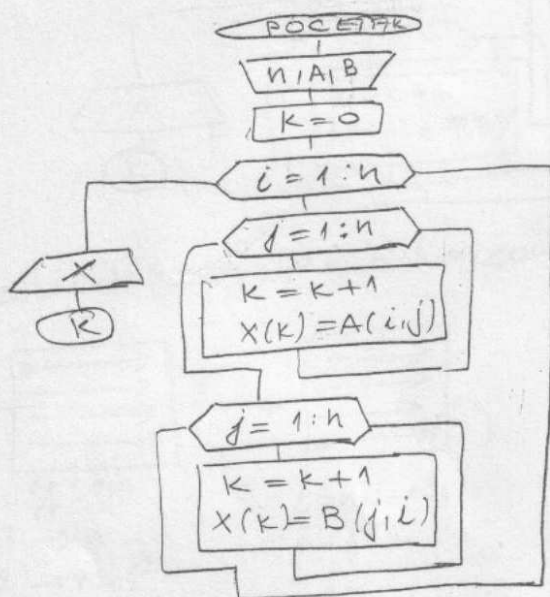
1
2
3



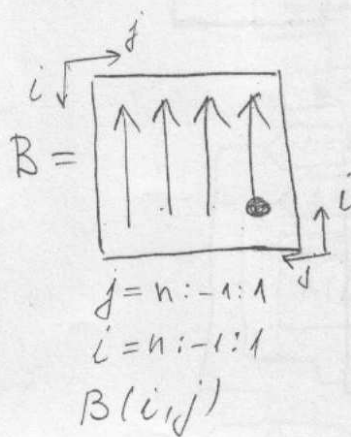
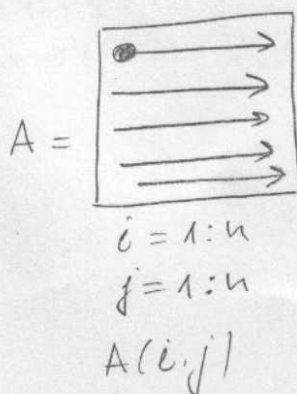
4



$i=1:n$
 $j=1:n$
 $B(j,i)$



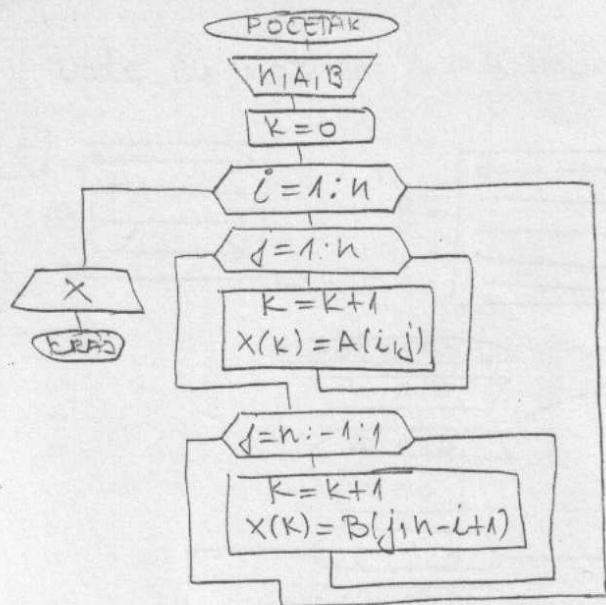
5



$i=n:-1:1$
 $j=n:-1:1$
 $B(j,i)$

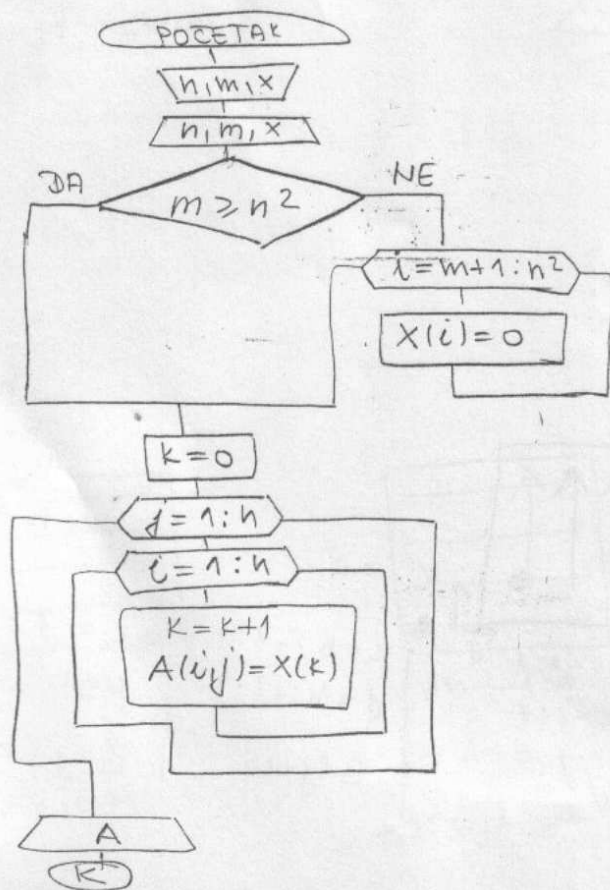
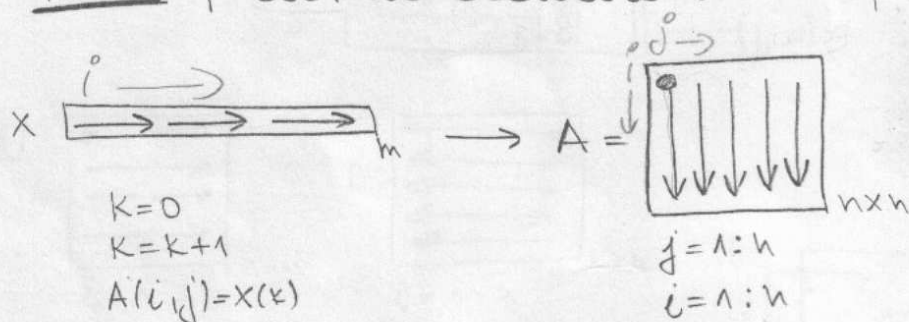
$i=1:n$
 $j=n:-1:1$
 $B(j, n-i+1)$

i
 $n \rightarrow 1$
 $n-1 \rightarrow 2$
 $n-2 \rightarrow 3$
 $n-i+1$



Formiranje matrice od viza

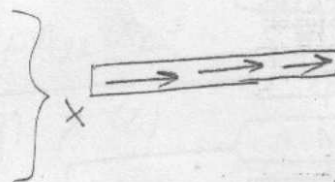
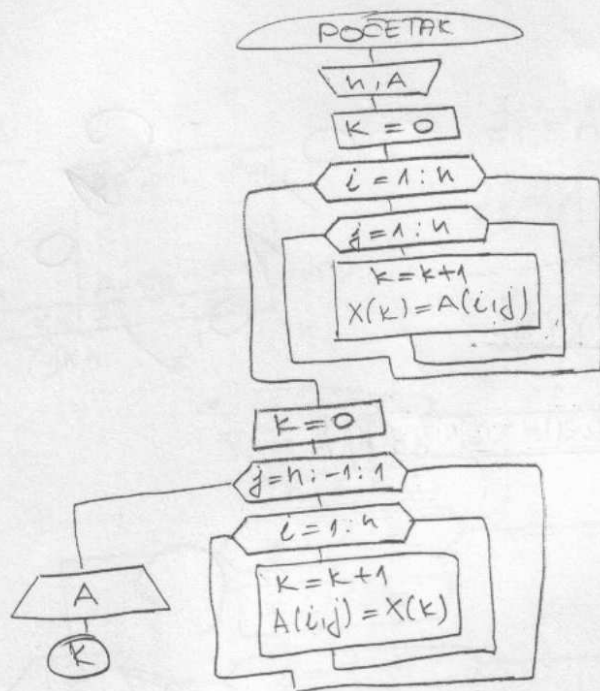
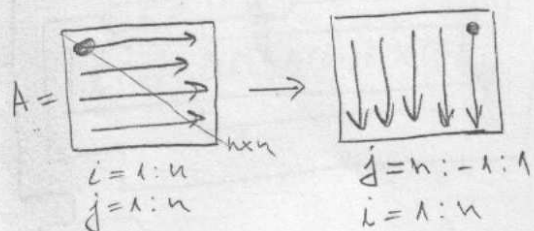
- 1 Formirati matricu $A_{n \times n}$ od viza x dužine m . Ukoliko je $m < n^2$ preostale elemente viza x popuniti 0.



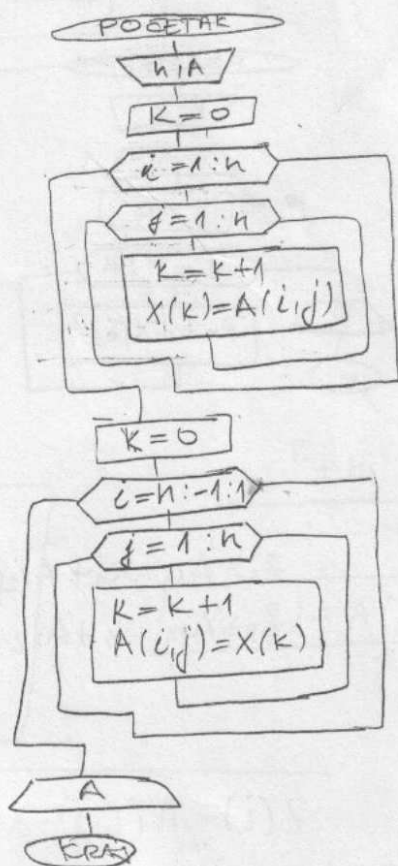
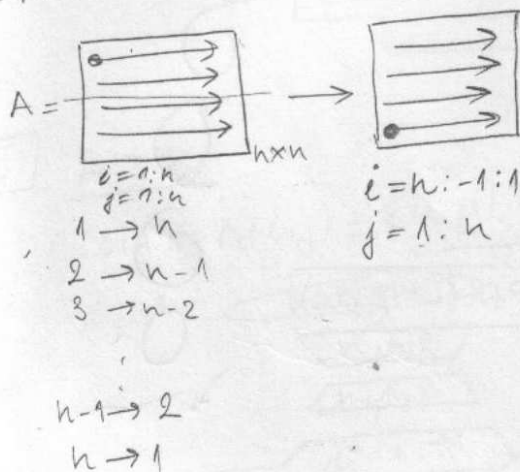
* preslikati matriču A oko sporedne (glavne) dijagonale = zrotirati matriču A za 90°

1 Preslikati matriču A oko glavne dijagonale

* prvo od matrice formiramo niz, pa od njega tražemo matriču



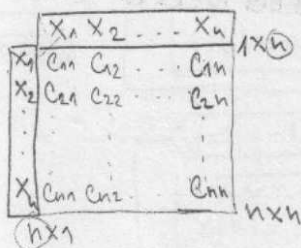
2 Preslikati matriču oko horizontalne ose



Množenje vektora i matrice

I Dati su vektor X_n i matrice $A, B_{n \times n}$. Naći:

1 $X \cdot X^T$



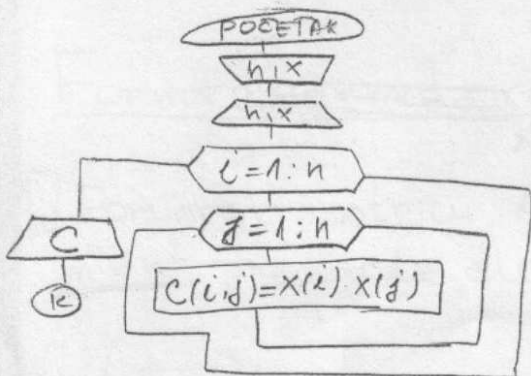
$$C_{11} = X_1 \cdot X_1$$

$$C_{21} = X_2 \cdot X_1$$

$$\vdots$$

$$C_{37} = X_3 \cdot X_7$$

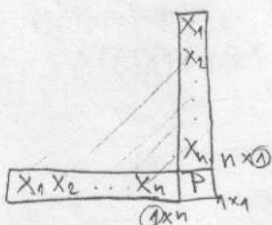
$$C(i,j) = X(i) \cdot X(j)$$



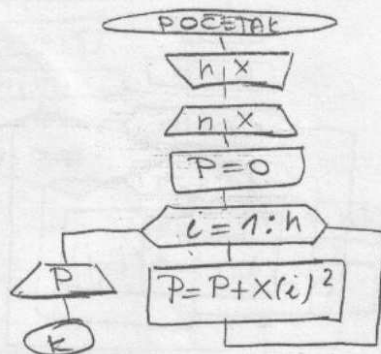
$$X \cdot Y^T$$

$$C(i,j) = X(i) \cdot Y(j)$$

2 $X^T \cdot X$



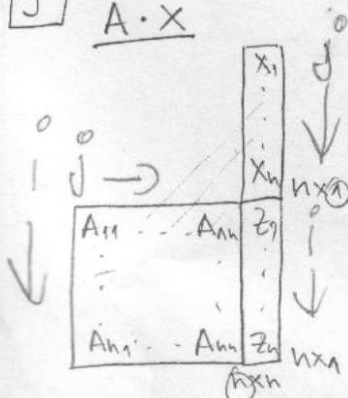
$$P = X_1^2 + X_2^2 + \dots + X_n^2$$



$$X^T \cdot Y$$

$$P = P + X(i) \cdot Y(i)$$

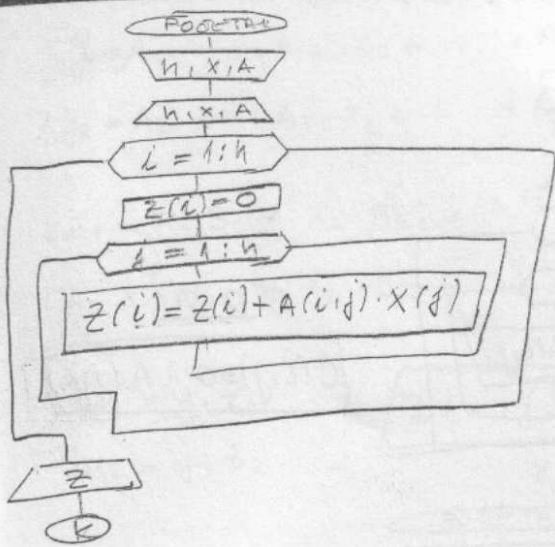
3 $\tilde{A} \cdot X$



$$Z_1 = A_{11} \cdot X_1 + A_{12} \cdot X_2 + \dots + A_{1n} \cdot X_n$$

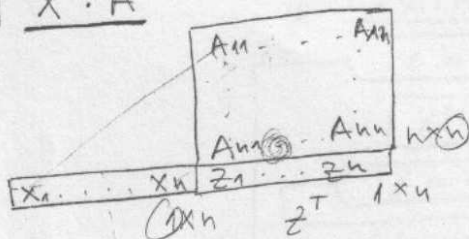
$$Z_2 = A_{21} \cdot X_1 + A_{22} \cdot X_2 + \dots + A_{2n} \cdot X_n$$

$$Z(i) = A(i,j) \cdot X(j)$$



$$\begin{matrix} A^T \cdot X \\ \vdots \\ z(i) = z(i) + A(j, i) \cdot X(j) \\ \vdots \end{matrix}$$

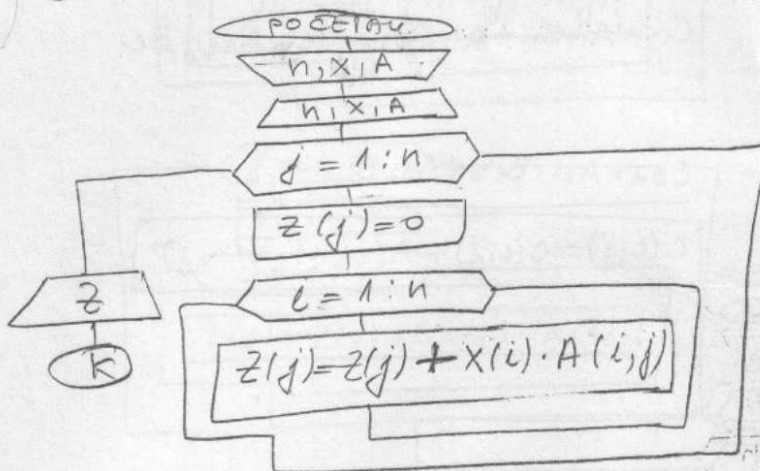
4 $X^T \cdot A$



$$z_1 = A_{11} \cdot x_1 + A_{21} \cdot x_2 + \dots + A_{n1} \cdot x_n$$

$$z_2 = A_{12} \cdot x_1 + A_{22} \cdot x_2 + \dots + A_{n2} \cdot x_n$$

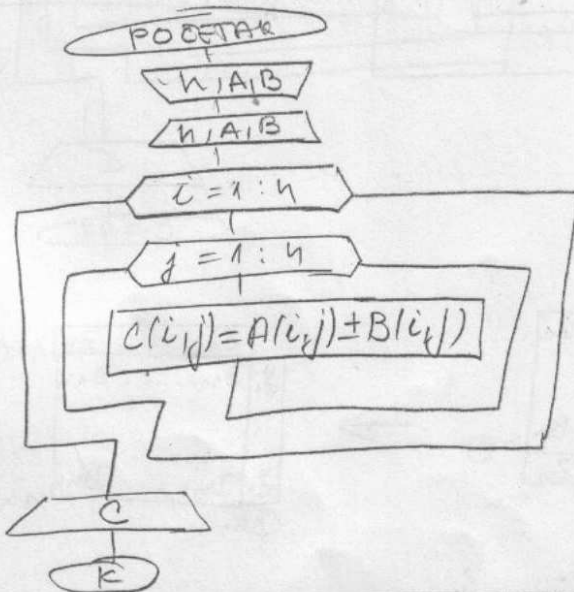
$$z(j) = A(i, j) \cdot X(i)$$



$$\begin{matrix} X^T \cdot A^T \\ \vdots \\ z(j) = z(j) + X(i) \cdot A(i, j) \\ \vdots \end{matrix}$$

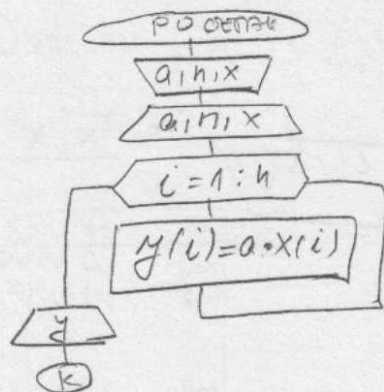
5 $A \pm B$

$$C(i, j) = A(i, j) \pm B(i, j)$$

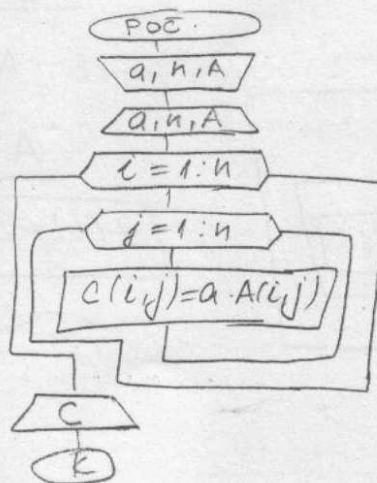


$$\begin{matrix} A^T \pm B \\ \vdots \\ C(i, j) = A(j, i) \pm B(i, j) \\ \vdots \end{matrix}$$

6 $a \cdot x$



$a \cdot A$

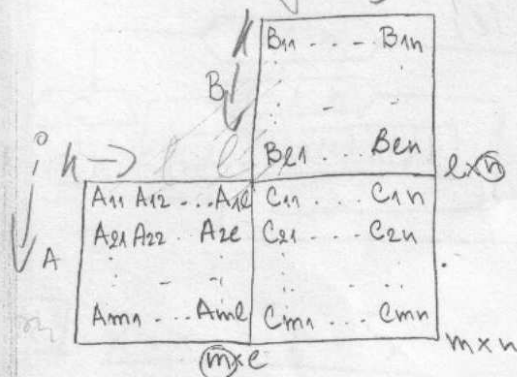


$a \cdot A^T$

$$C(i, j) = a \cdot A(j, i)$$

7 $A \cdot B$

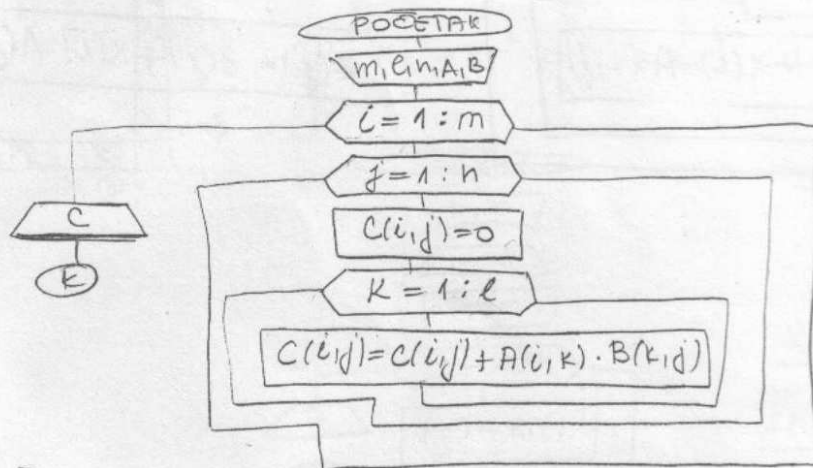
$A_{m \times n} \times B_{n \times l}$



$$C_{11} = A_{11}B_{11} + A_{12}B_{21} + \dots + A_{1n}B_{n1}$$

$$C_{37} = A_{31}B_{17} + A_{32}B_{27} + \dots$$

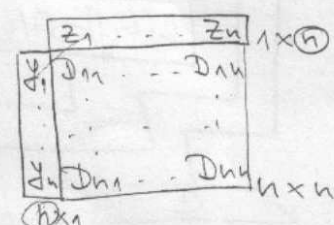
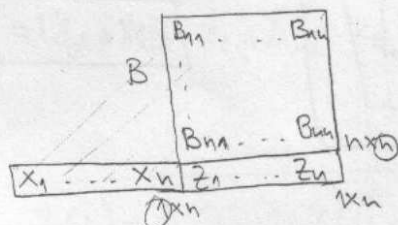
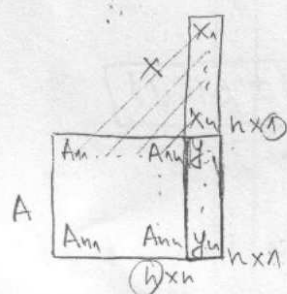
$$C(i, j) = C(i, j) + A(i, k) \cdot B(k, j)$$



$A^T \cdot B$

$$C(i, j) = C(i, j) + A(k, i) \cdot B(k, j)$$

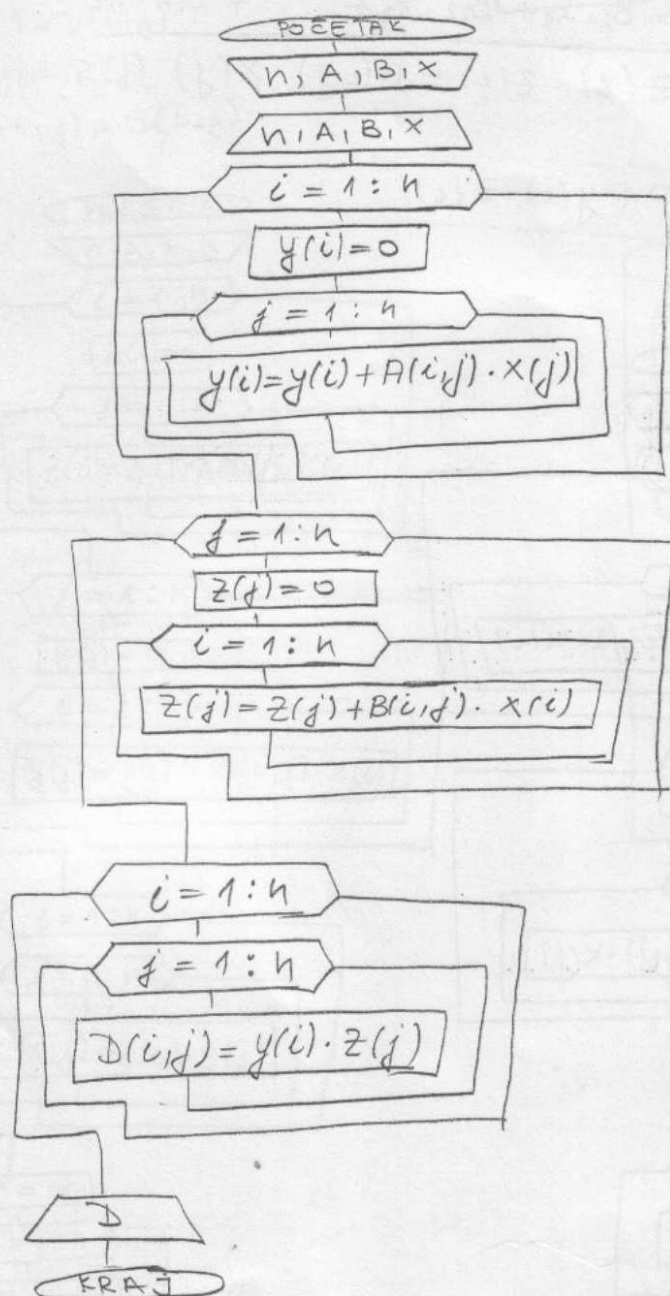
8 $A \cdot X \cdot X^T \cdot B = \text{Двуматрица}$



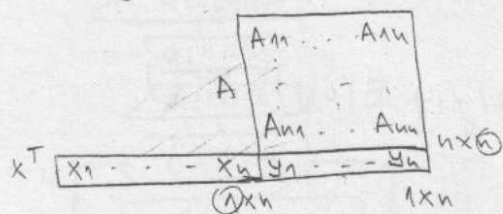
$$\begin{aligned} y_1 &= A_{11} \cdot x_1 + A_{12} \cdot x_2 + \dots + A_{1n} \cdot x_n \\ y_2 &= A_{21} \cdot x_1 + A_{22} \cdot x_2 + \dots + A_{2n} \cdot x_n \end{aligned} \quad \left. \vphantom{\begin{aligned} y_1 &= A_{11} \cdot x_1 + A_{12} \cdot x_2 + \dots + A_{1n} \cdot x_n \\ y_2 &= A_{21} \cdot x_1 + A_{22} \cdot x_2 + \dots + A_{2n} \cdot x_n \end{aligned}} \right\} y(i) = y(i) + A(i,j) \cdot x(j)$$

$$\begin{aligned} z_1 &= x_1 B_{11} + x_2 B_{21} + \dots + x_n B_{n1} \\ z_2 &= x_1 B_{12} + x_2 B_{22} + \dots + x_n B_{n2} \end{aligned} \quad \left. \vphantom{\begin{aligned} z_1 &= x_1 B_{11} + x_2 B_{21} + \dots + x_n B_{n1} \\ z_2 &= x_1 B_{12} + x_2 B_{22} + \dots + x_n B_{n2} \end{aligned}} \right\} z(j) = z(j) + B(i,j) \cdot x(i)$$

$$\begin{aligned} D_{11} &= y_1 z_1 \\ D_{12} &= y_1 z_2 \end{aligned} \quad \left. \vphantom{\begin{aligned} D_{11} &= y_1 z_1 \\ D_{12} &= y_1 z_2 \end{aligned}} \right\} D(i,j) = y(i) \cdot z(j)$$



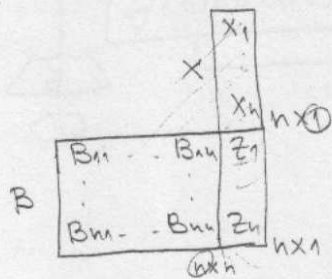
$$\boxed{9} \underbrace{(X^T \cdot A \cdot B \cdot X)^{-1}}_{y^{1/2} z^{1/2}} = P^{-1} = \frac{1}{P} = Q \text{ broj}$$



$$y_1 = A_{11}x_1 + A_{12}x_2 + \dots + A_{1n}x_n$$

$$y_2 = A_{21}x_1 + A_{22}x_2 + \dots + A_{2n}x_n$$

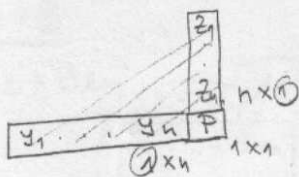
$$y(j) = y(j) + A(i,j) \cdot x(i)$$



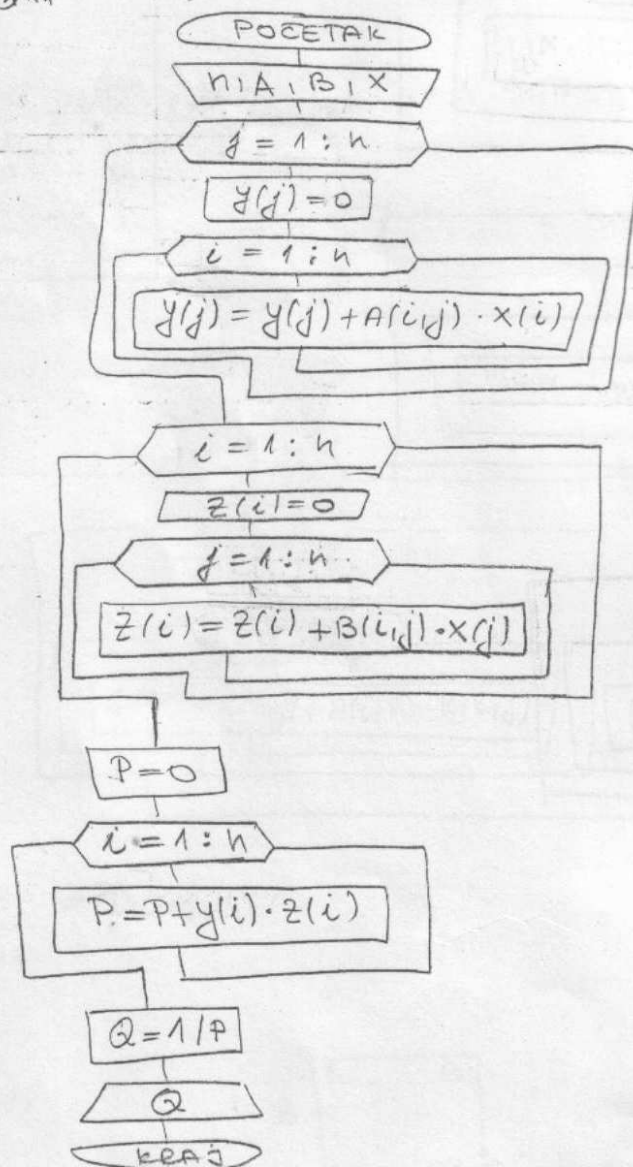
$$z_1 = B_{11}x_1 + B_{12}x_2 + \dots + B_{1n}x_n$$

$$z_2 = B_{21}x_1 + B_{22}x_2 + \dots + B_{2n}x_n$$

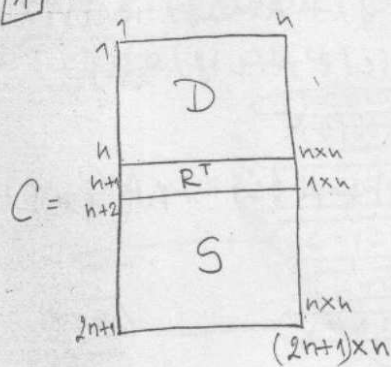
$$z(i) = z(i) + B(i,j) \cdot x(j)$$



$$P = P + y(i) \cdot z(i)$$



1) Formirati matricu C



$$C(i,j) = D(i,j)$$

$$C(n+1,j) = R(j)$$

$$C(i+n+1,j) = S(i,j)$$

- 1) $A \cdot X = Z$
- 2) $X^T \cdot B = Y^T$
- 3) $Z \cdot Y^T = D$
- 4) $X^T \cdot X = P$
- 5) $P \cdot Y^T = R^T$
- 6) $Q = A^T \cdot B$
- 7) $P \cdot Q = S$

$$z(i) = z(i) + A(i,j) \cdot x(j)$$

$$y(j) = y(j) + B(i,j) \cdot x(i)$$

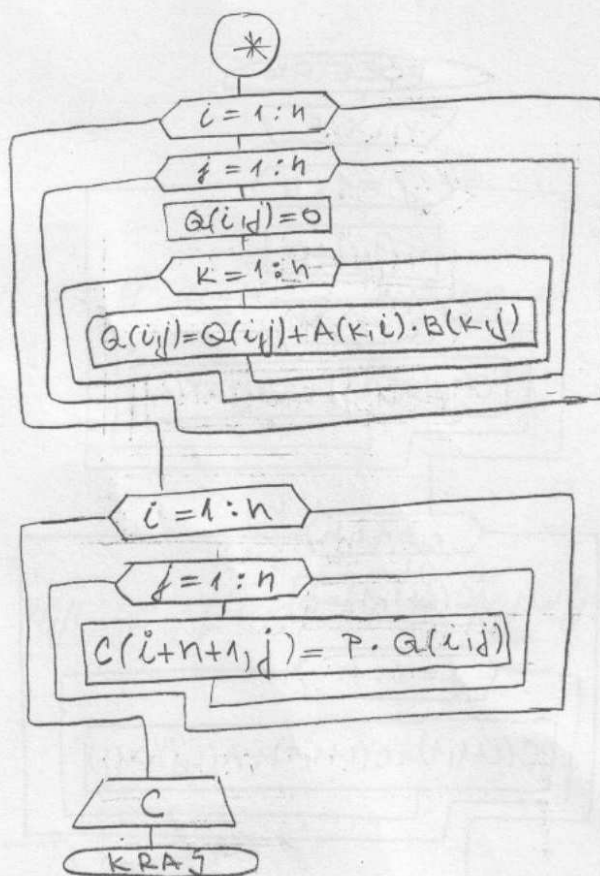
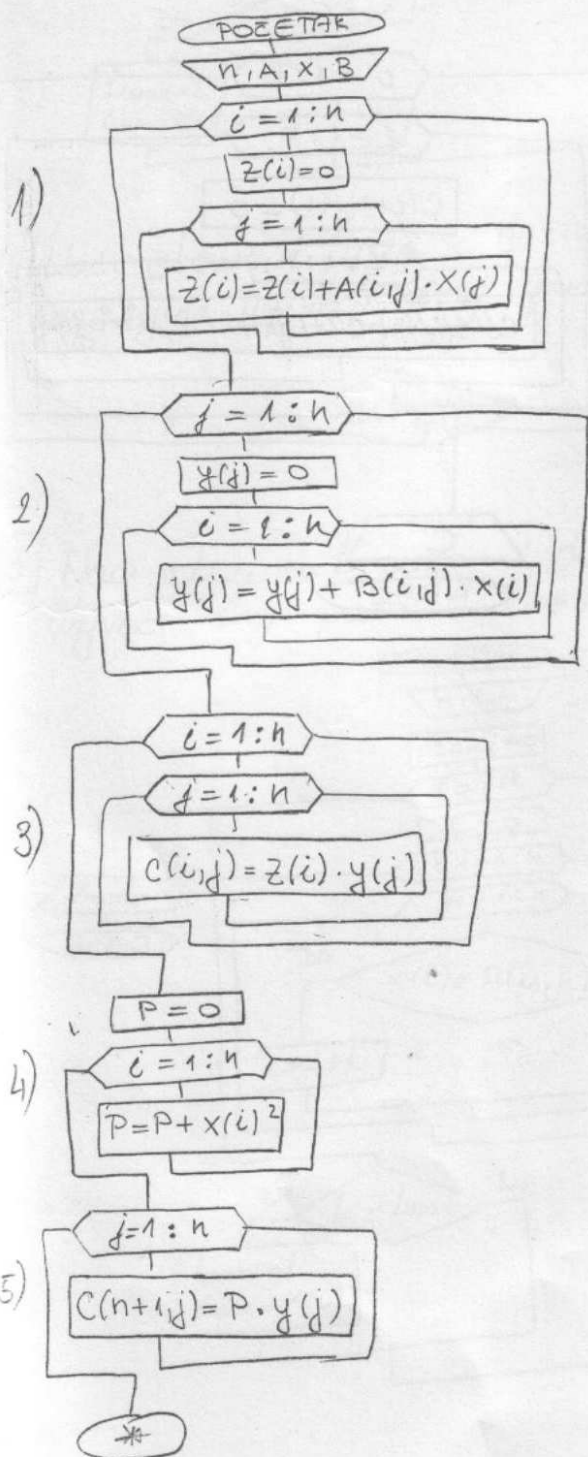
$$D(i,j) = z(i) \cdot y(j)$$

$$P = P + x(i)^2$$

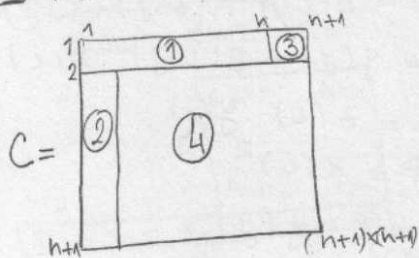
$$R(j) = P \cdot y(j)$$

$$Q(i,j) = Q(i,j) + A(k,i) \cdot B(k,j)$$

$$S(i,j) = P \cdot Q(i,j)$$



2. Forvirati watricu C



$$C(1, j) = z^T(j)$$

$$C(i+1, 1) = y(i)$$

$$C(1, n+1) = P$$

$$C(i+1, j+1) = D(i, j)$$

$$1) X^T \cdot A = z^T$$

$$2) A \cdot X = y$$

$$3) X^T \cdot X = P$$

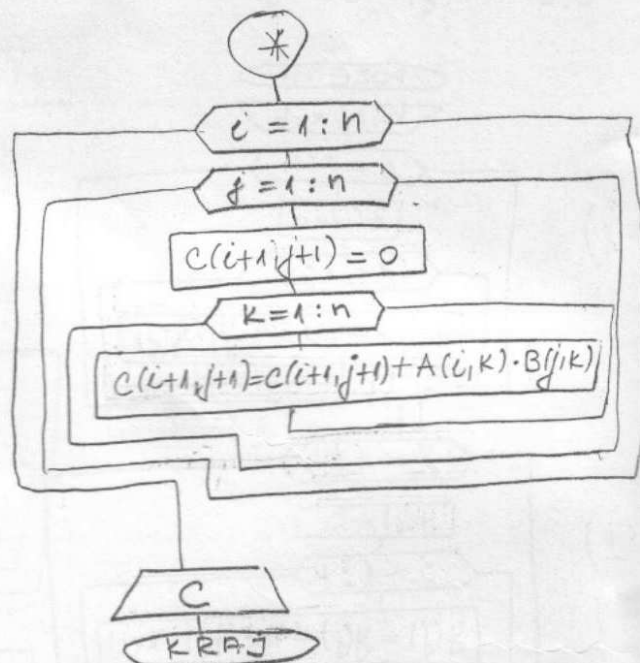
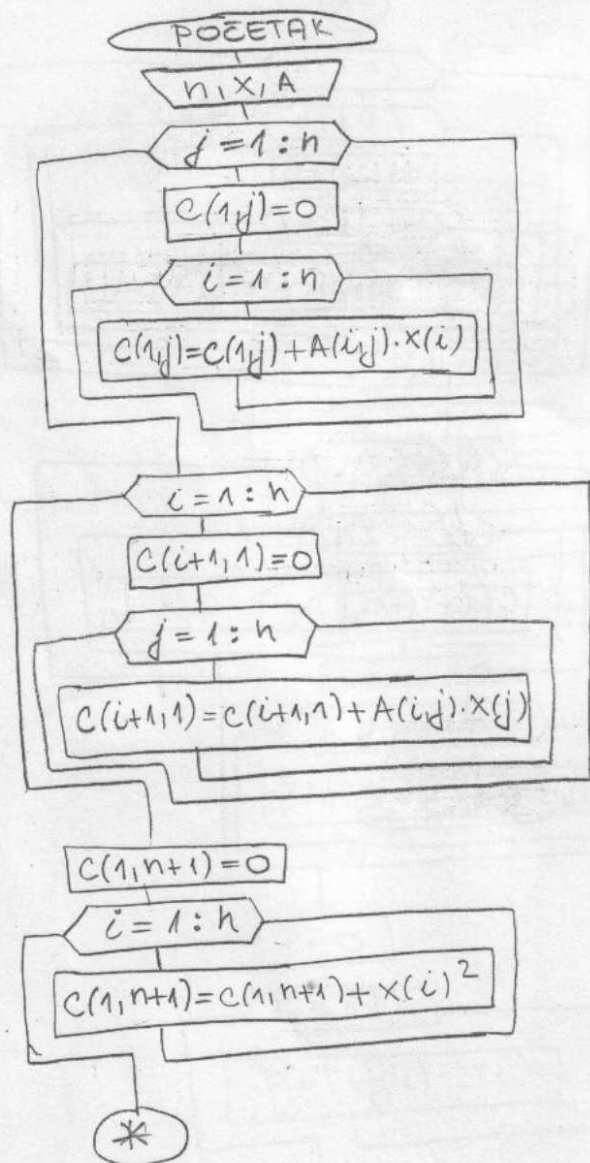
$$4) A \cdot A^T = D$$

$$z(j) = z(j) + A(i, j) \cdot x(i)$$

$$y(i) = y(i) + A(i, j) \cdot x(j)$$

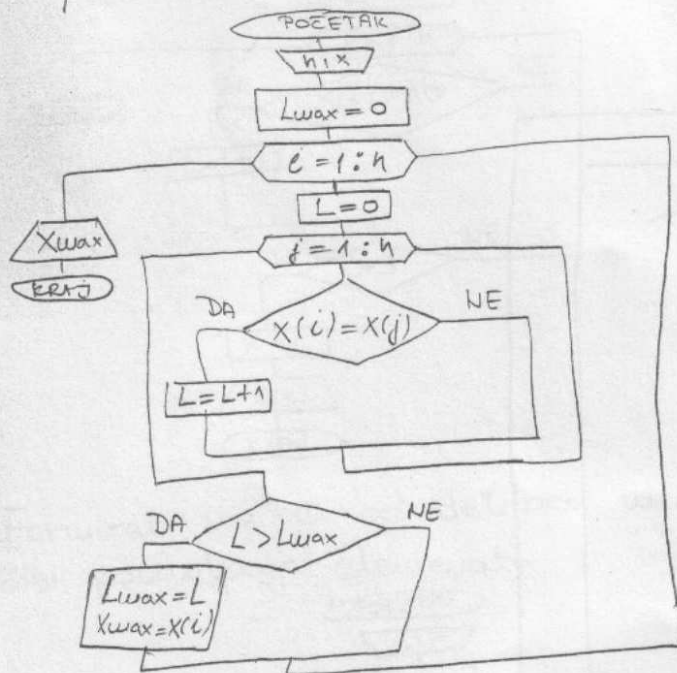
$$P = P + x(i)^2$$

$$D = D(i, j) + A(i, k) \cdot A(j, k)$$

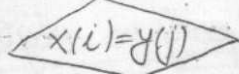


#

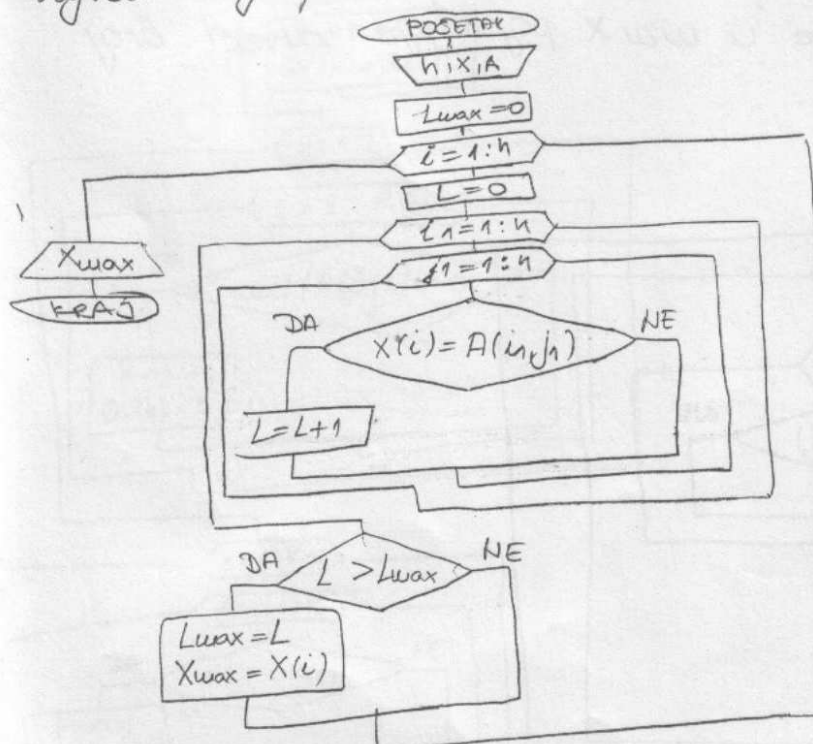
- 1) Naći element wiza x dužine n koji se pojavljuje najveći broj puta u wizu $X \rightarrow X$



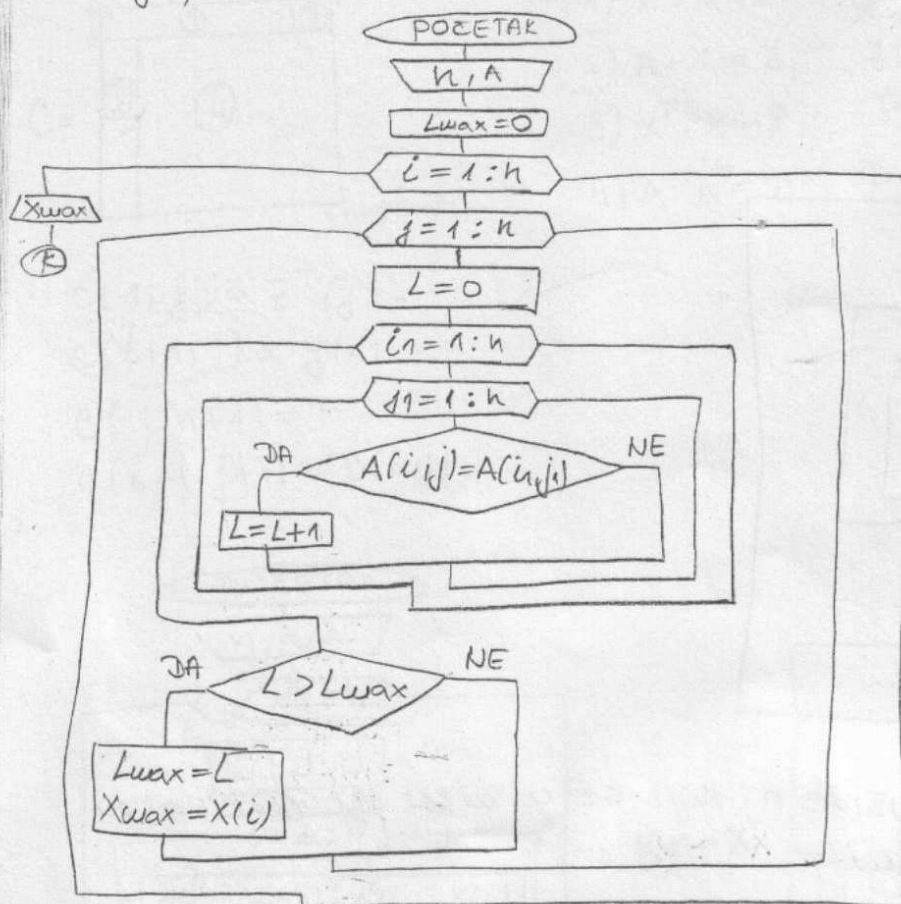
- 2) Naći element wiza x dužine n koji se u wizu y dužine m pojavljuje najveći broj puta $X \rightarrow y$



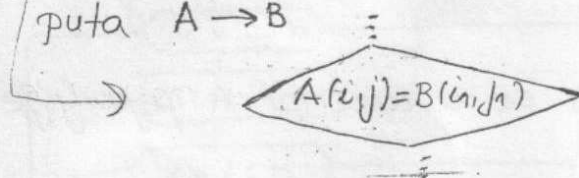
- 3) Naći element wiza x dužine n koji se u matrici A pojavljuje najveći broj puta. $X \rightarrow A$



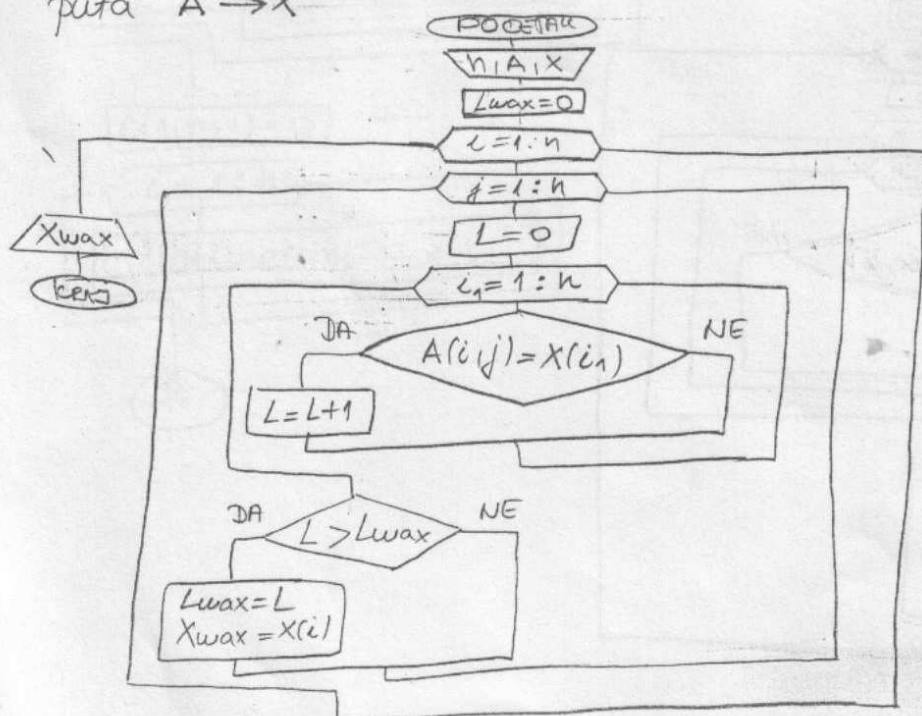
- 4) Naći element matrice A koji se pojavljuje najveći broj puta u matrici $A \rightarrow A$



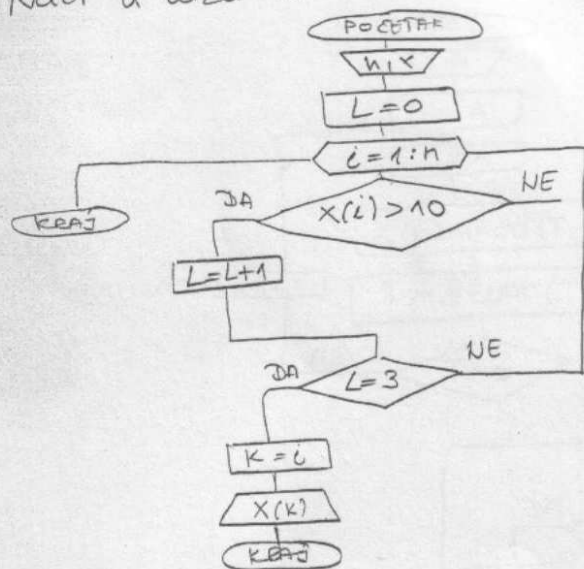
- 5) Naći el. matrice A koji se u mat. B pojavljuje najveći broj puta $A \rightarrow B$



- 6) Naći el. matrice A koji se u wzw X pojavljuje najveći broj puta $A \rightarrow X$



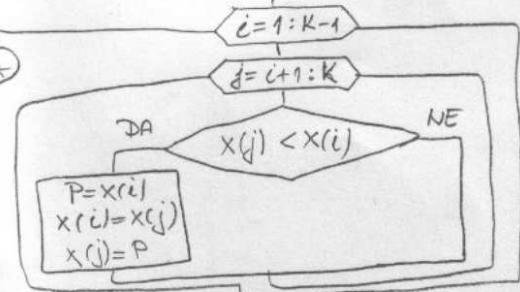
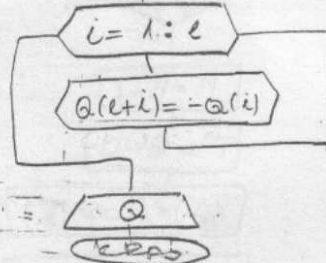
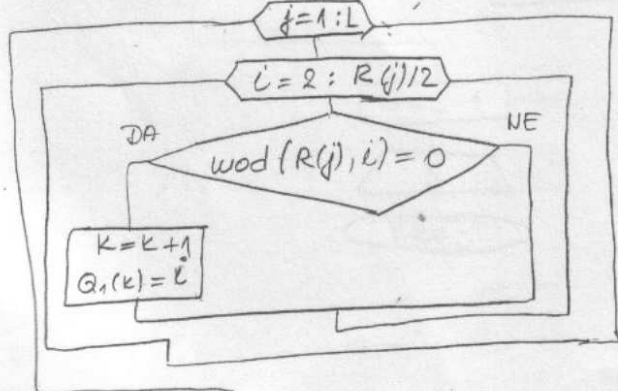
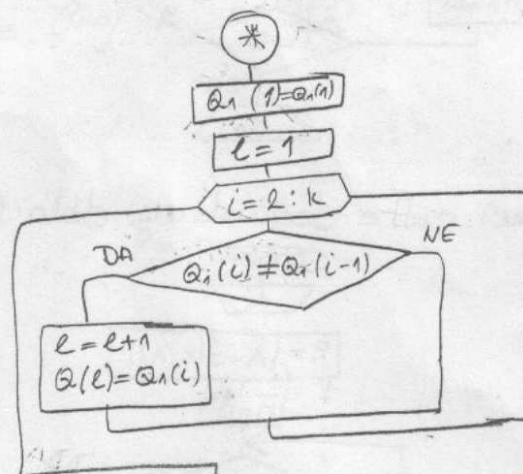
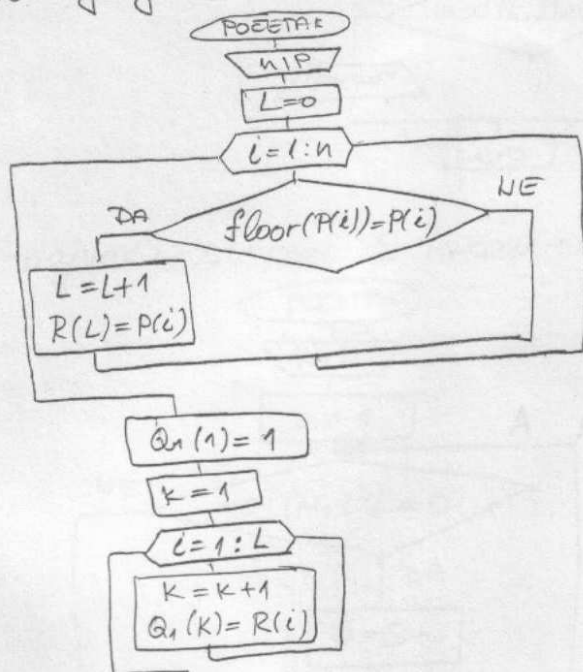
1) Naći u vazu X treći po redu element koji je > 10



2) Formirati niz Q od delilaca niza P koji su celi. U nizu, Q ne sme biti ponavljajućih elemenata.

P - skup celih Brojeva.
Niza P

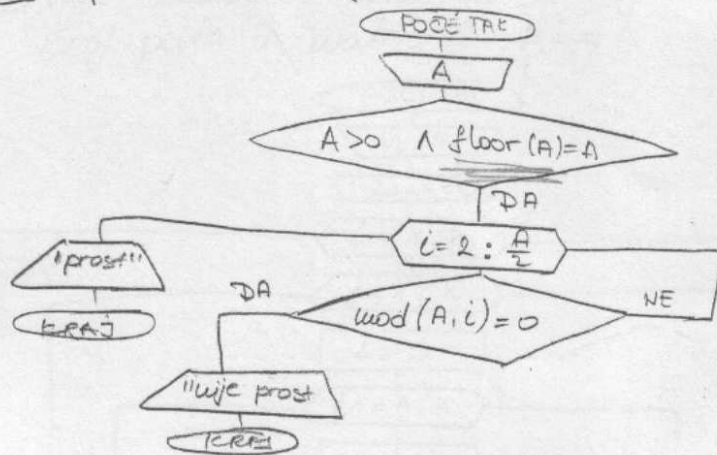
Q_1 - skup svih delilaca
skupa P , sa ponavljajućim.



Q

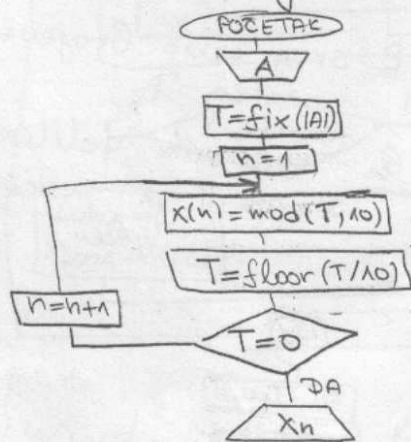
KRAJ

3] Ispitati da li je dani broj prost.

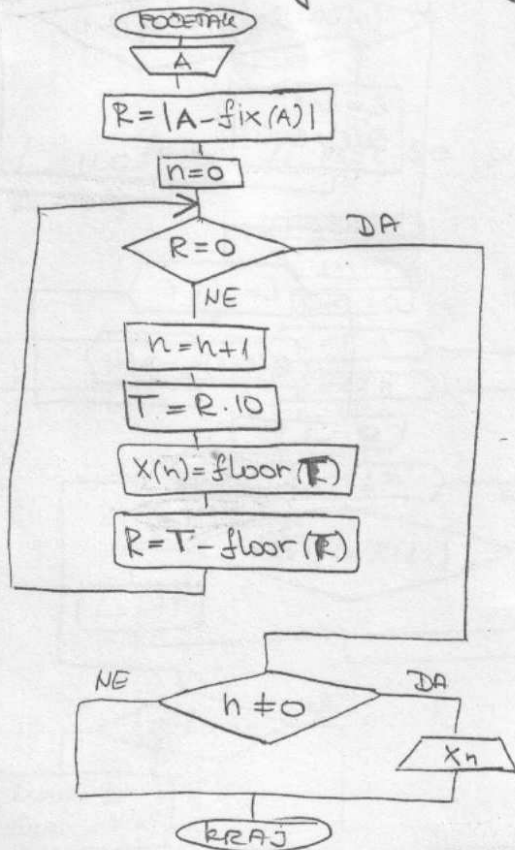


Rad sa ciframa Broja

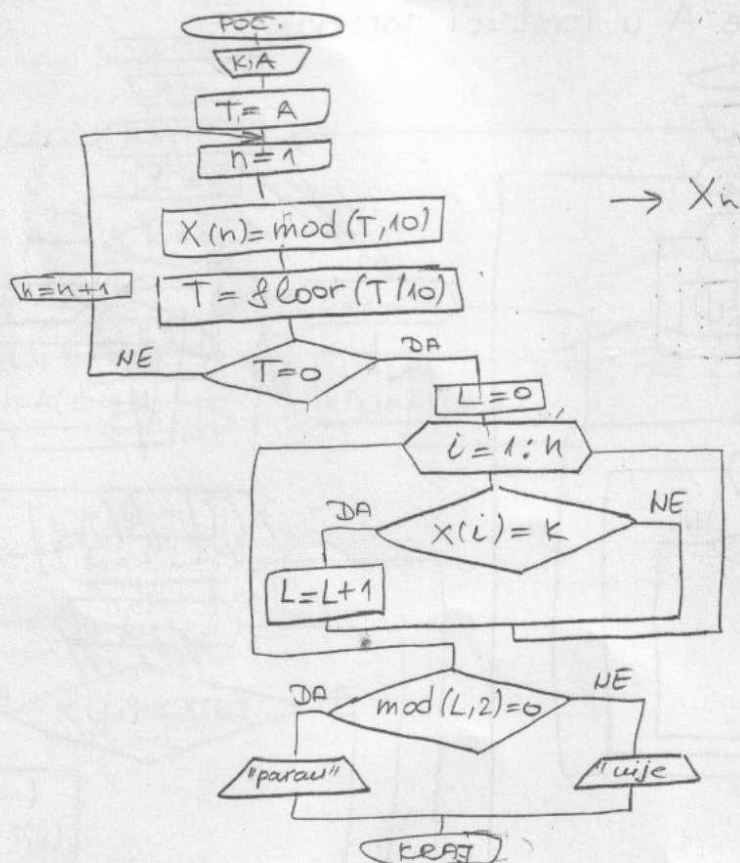
1] Naći cifre celog dela Broja A



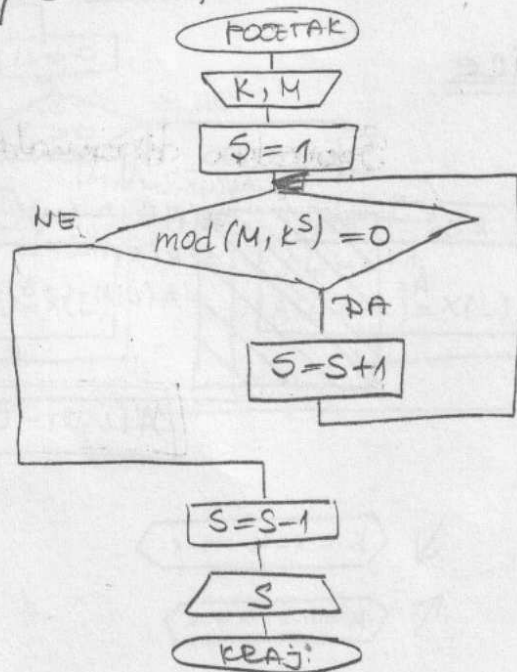
2] Naći cifre decimalnog dela Broja A



3) Ispitati da li se cifra k pojavljuje parni broj puta u broju A (ceo broj)

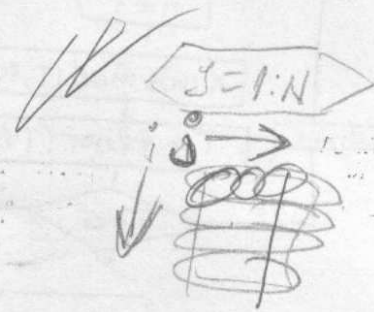
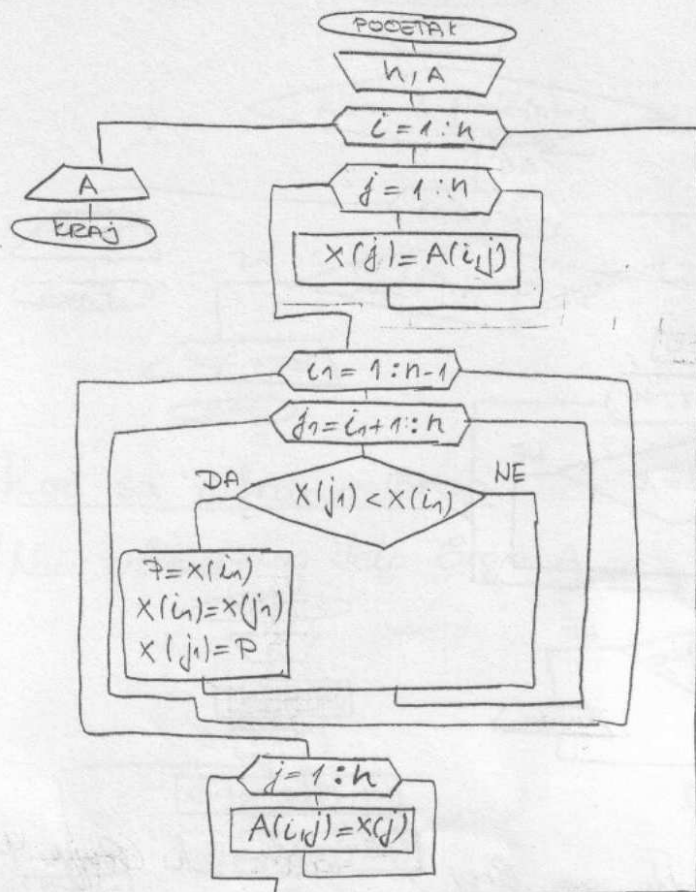


4) Naći najveći stepen S takav da se broj k^S sadrži u broju M .



#

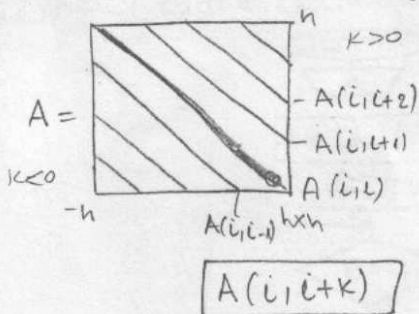
1 Sortirati vrste matrice A u rastući poredak.



$X(j) = A(i,j)$
 $I = 1:n-1$
 $J = I+1:n$

Rad sa dijagonalama matrice

Glavna dijagonala



\nearrow $K = 1-n:n-1$

\nwarrow $K = n-1:-1:1-n$

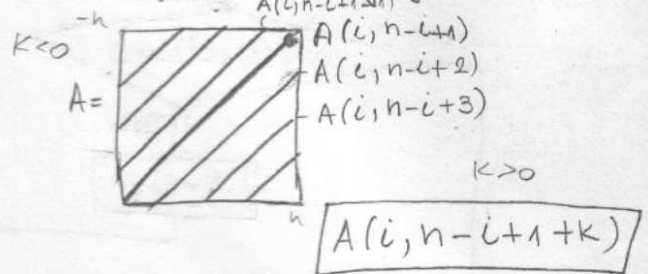
$K > 0$: \downarrow $i = 1:n-K$

\nearrow $i = n-K:-1:1$

$K < 0$: \downarrow $i = 1-K:n$

\nearrow $i = n:-1:1-K$

Sporedna dijagonala



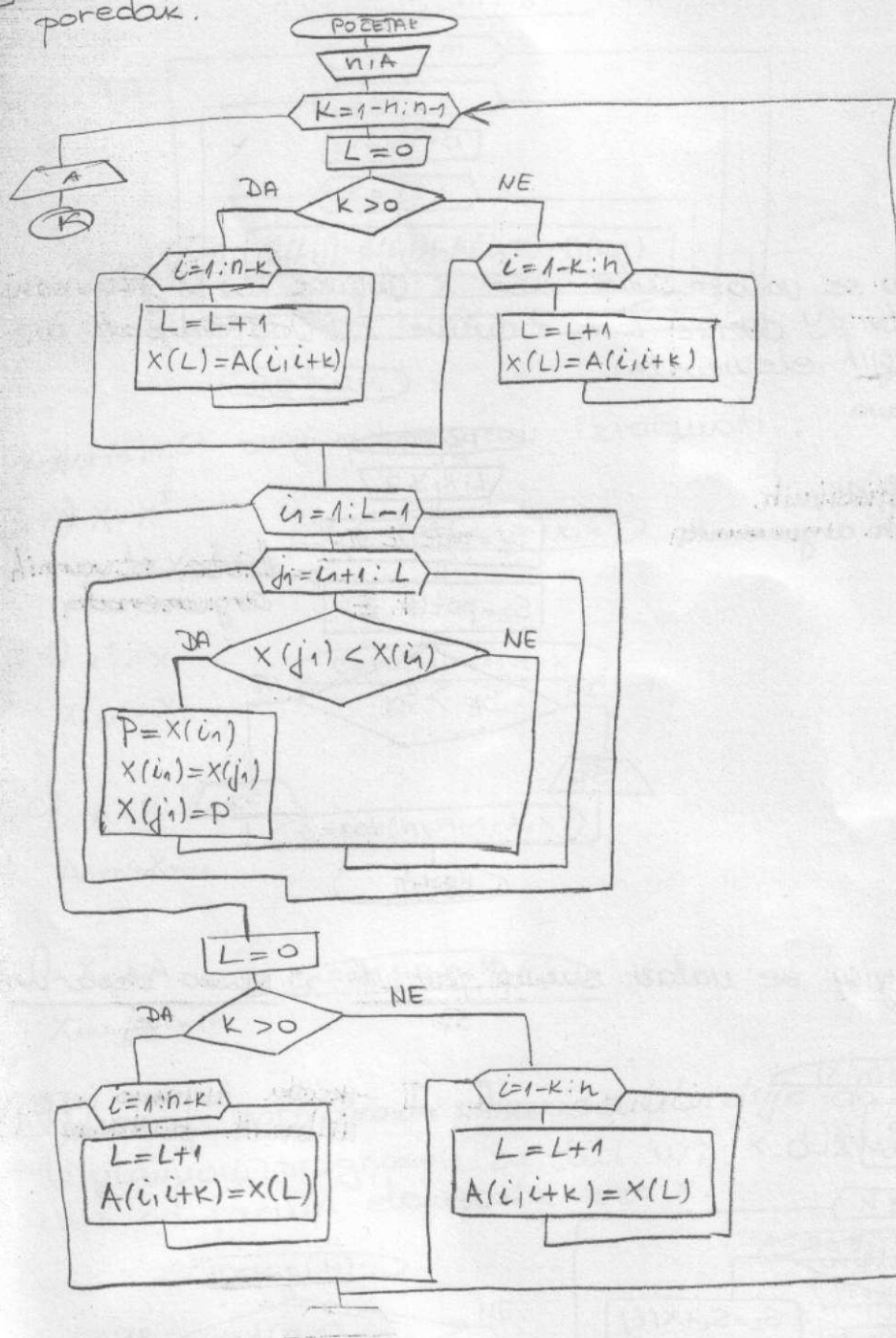
\downarrow $K = 1-n:n-1$

\nearrow $K = n-1:-1:1-n$

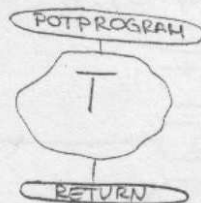
$K > 0$: $i = 1+K:n$

$K < 0$: $i = 1:n+K$

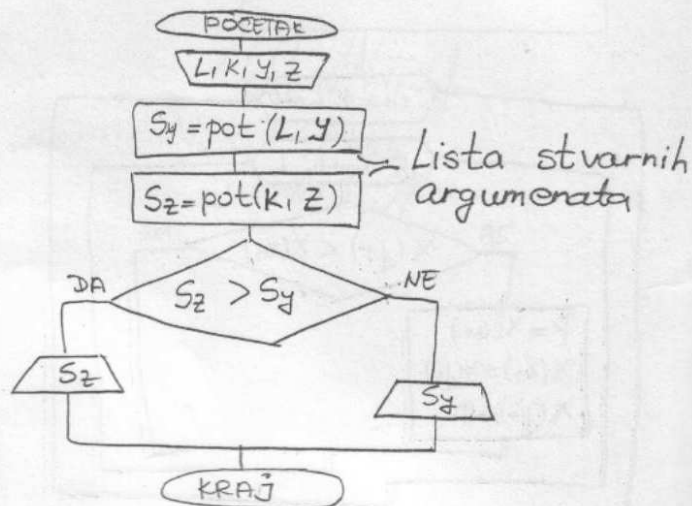
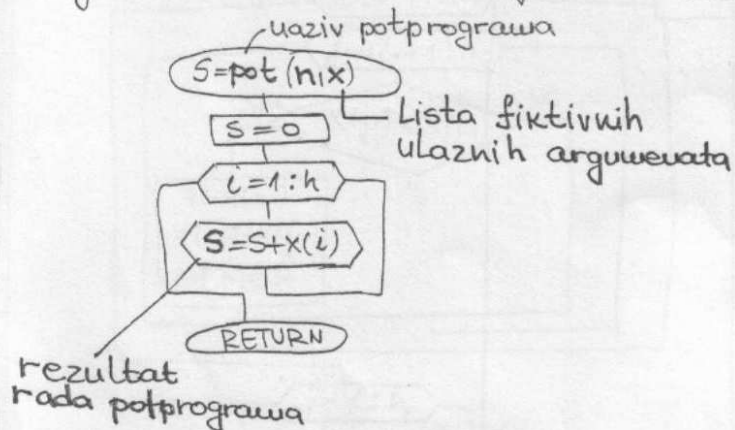
1) Urediti svaku dijagonalu koja je paralelna glavnoj u rastući poredak.



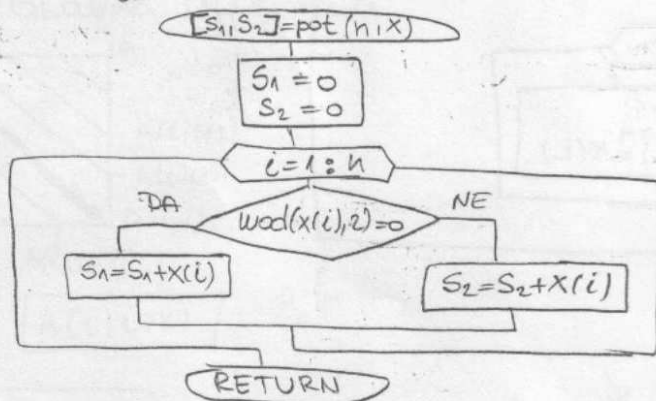
POTPROGRAMI



- 1 Napisati potprogram koji se ualazi suma wiza x dužine n . U glavnom programu se učitavaju wizovi y dužine L i z dužine k . Odštampati wiz koji ima veću sumu svojih elewewata.

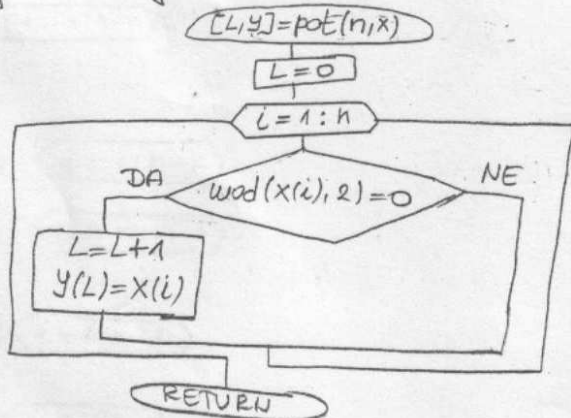


- 2 Napisati potprogram koji se ualazi suma parnih i suma neparnih elewewata wiza.

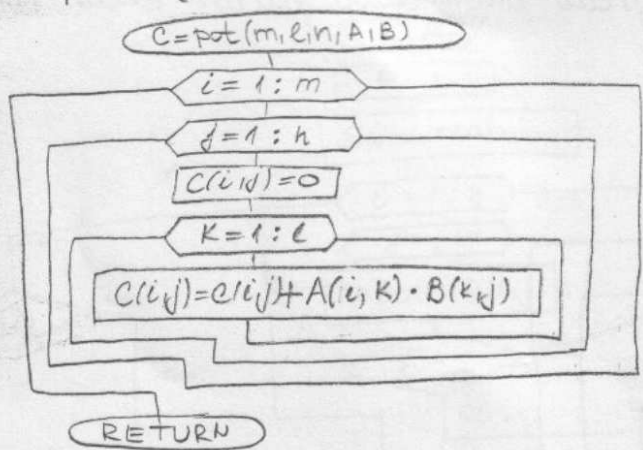


[] - kada imamo više izlaznih podataka

- 3 Potprogram koji formira wiz y od parnih elew. wiza x



4) Napisati potprogram za množenje matrica $A_{m \times l}$ i $B_{l \times n}$



$f_{11} = f_{11} + f_{12} \cdot f_{21} + f_{22} \cdot f_{31} + \dots$

Koristeći ovaj potprogram izračunati :

a) $X \cdot X^T$
 $X_{n \times n} \cdot X_{n \times n}$

$C = \text{pot}(n, 1, n, X, X)$

b) $X^T \cdot X$
 $X_{1 \times n} \cdot X_{n \times 1}$

$C = \text{pot}(1, n, 1, X, X)$

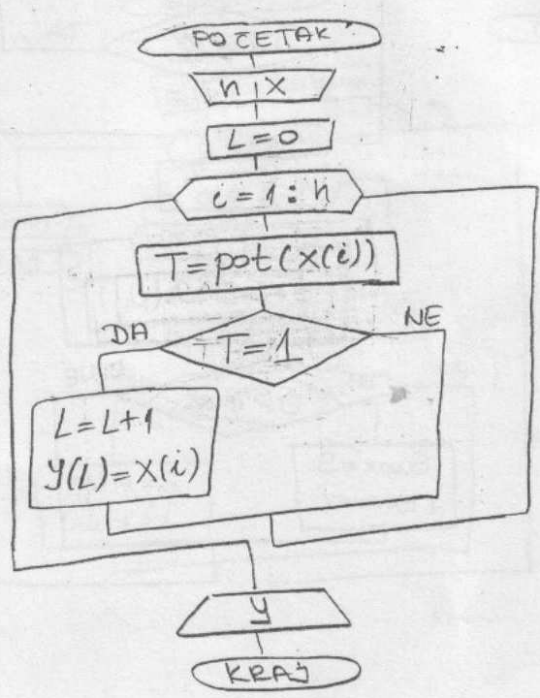
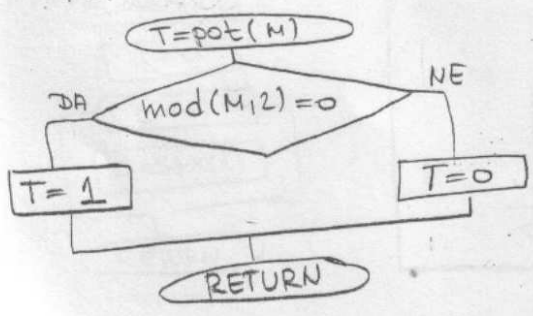
c) $A \cdot X$
 $A_{n \times n} \cdot X_{n \times 1}$

$C = \text{pot}(n, n, 1, A, X)$

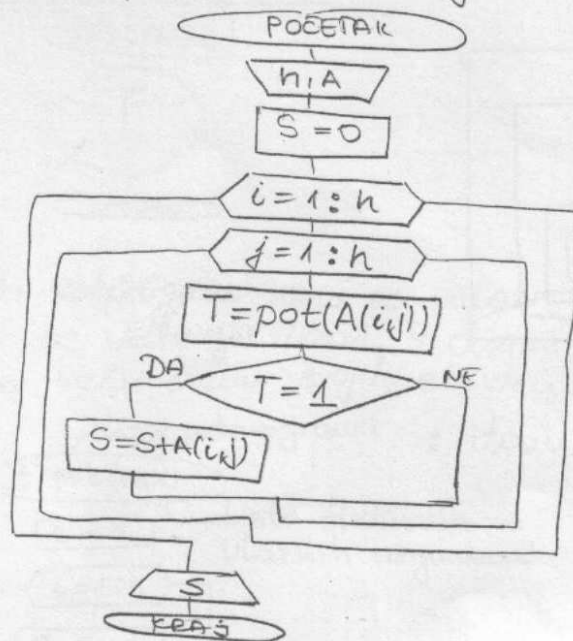
d) $X^T \cdot A$
 $X_{1 \times n} \cdot A_{n \times n}$

$C = \text{pot}(1, n, 1, X, A)$

5) Napisati potprogram koji se utvrđuje da li je M paran broj.
 U glavnom programu za dati niz x dužine n formirati novi niz od parnih elemenata niza x .

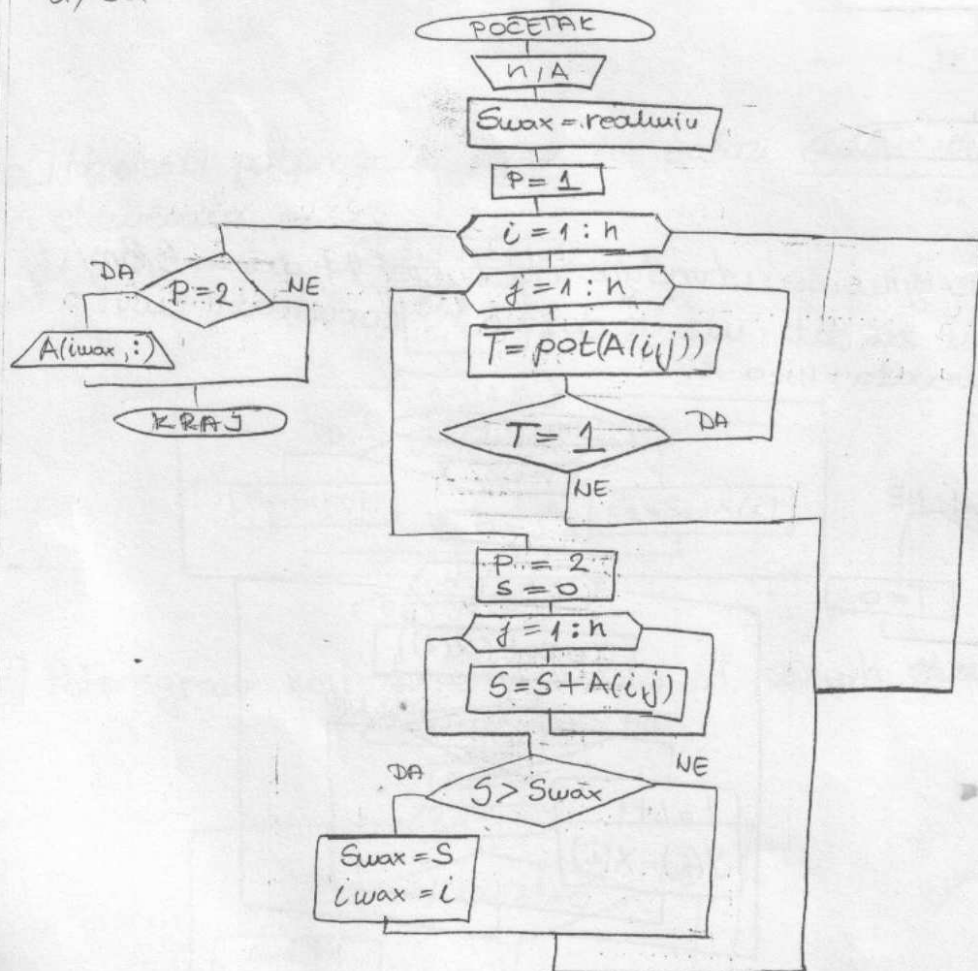


6) Koristeći prethodni potprogram ući suvu parnih elem. matrice $A_{n \times n}$



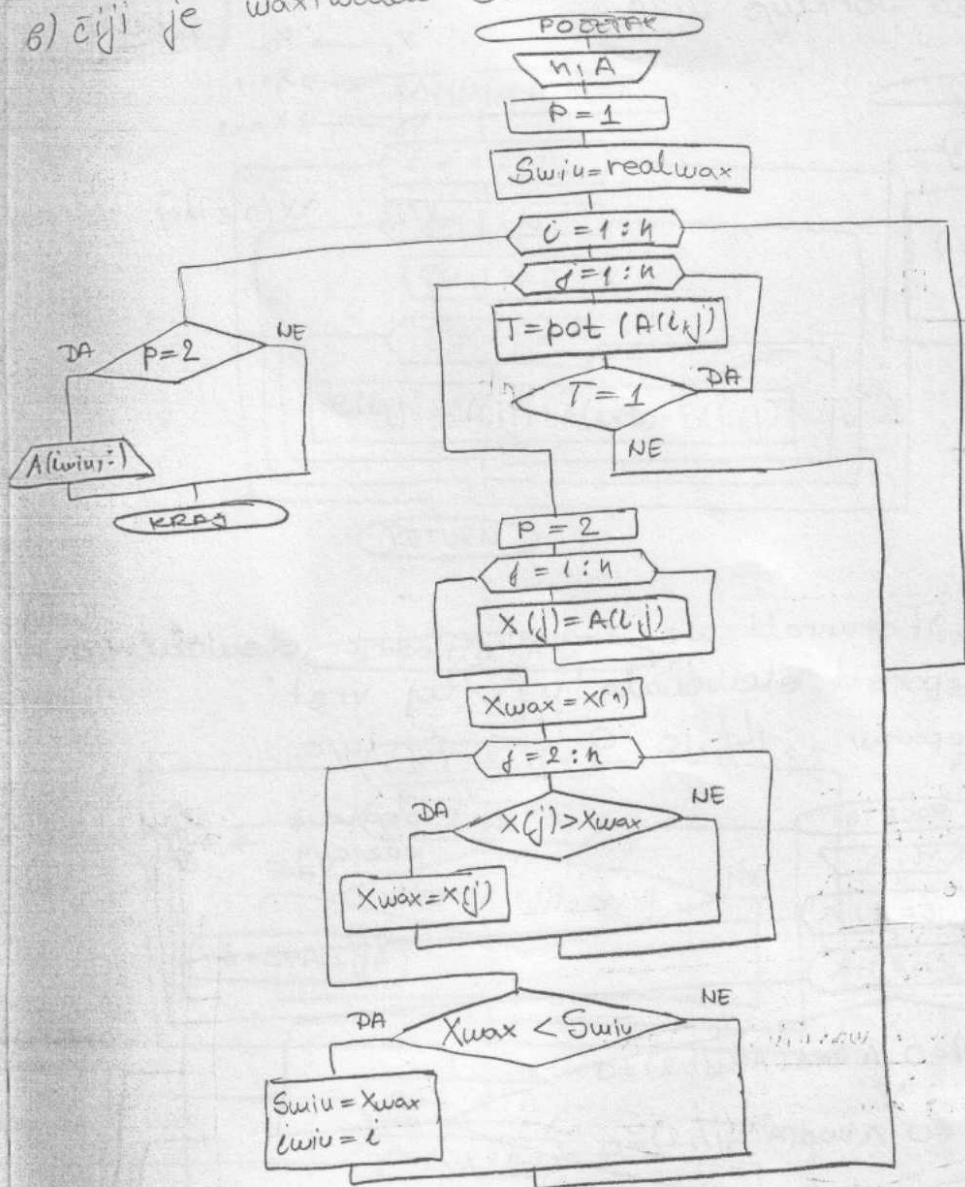
7) Data je matrica A reda n . Ispitati da li postoje vrste u kojoj svi elementi zadovoljavaju potprogram (zad. 5 - da li su svi el. vrste parni). Među svim takvim vrstama provodi odu:

a) sa maksimalnim zbirom elemenata

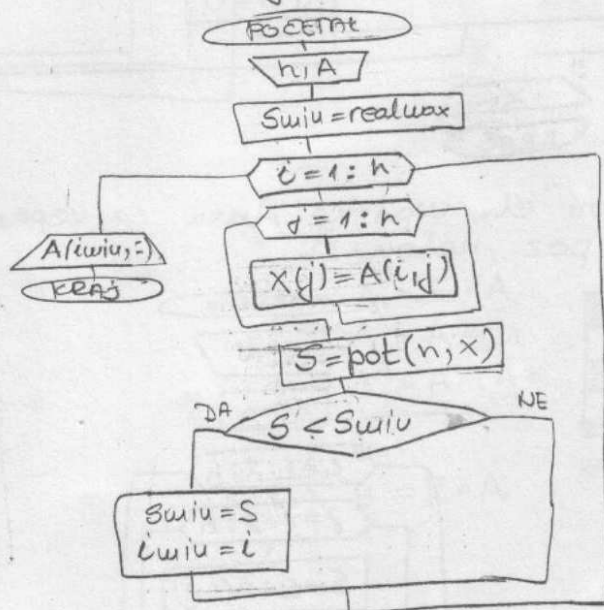
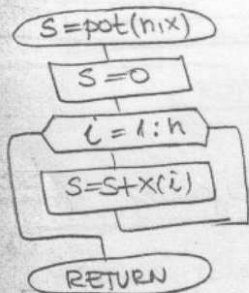


$A(i_{max}, :)$
cela vrsta

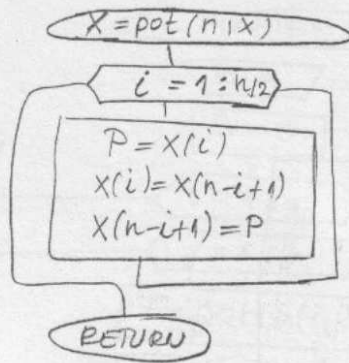
6) Cijli je maksimalni element wihwataw



8) Napisati pot. koji ualazi swuu wiza x duzine n . U glavniow prog. za datu watriw A odstawpati vrstu sa najwawijow swuow ciewewata.



9] Napišati podprogram za obrtanje wiza

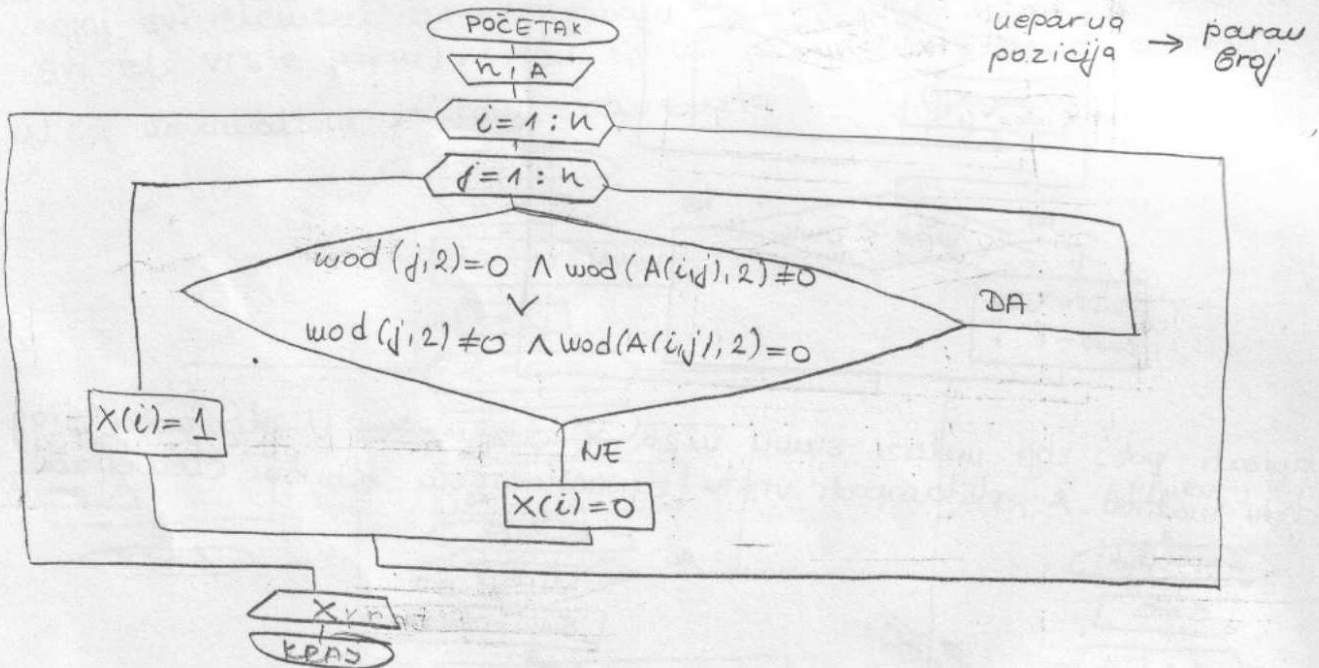


$X_1 \rightarrow X_n$
 $X_2 \rightarrow X_{n-1}$
 $X_3 \rightarrow X_{n-2}$

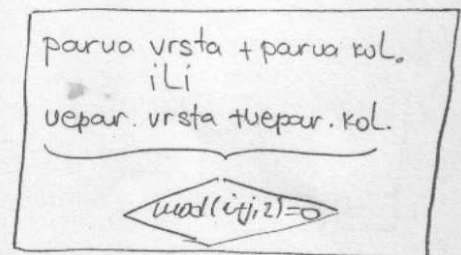
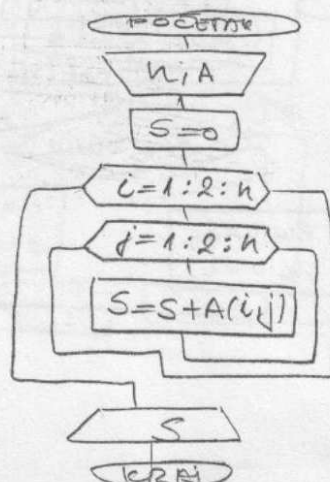
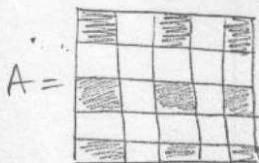
$X(i) \quad X(n-i+1)$

ROKOVI

1] Data je matrica $A_{n \times n}$. Formirati niz X gde je i -ti element niza X jednak 1 ako je raspored elemenata u i -toj vrsti parav-ueparav-parav-ueparav..., ili je 0 ako to nije.



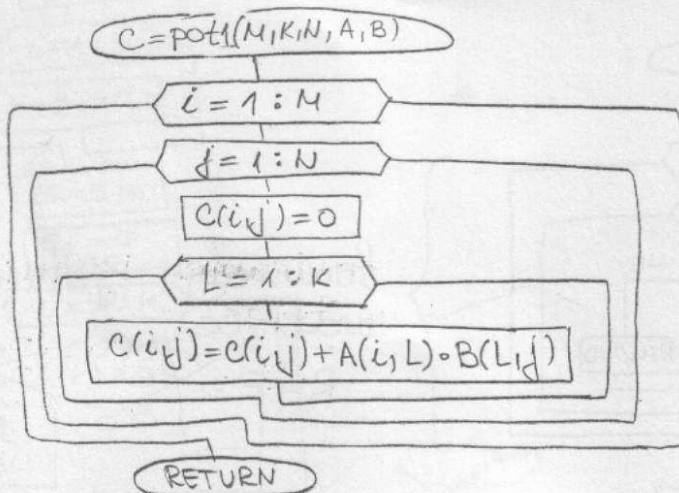
2] Naći sumu el. matrice $A_{n \times n}$ sa uparav pozicijama vrste i uparav poz. kolone.



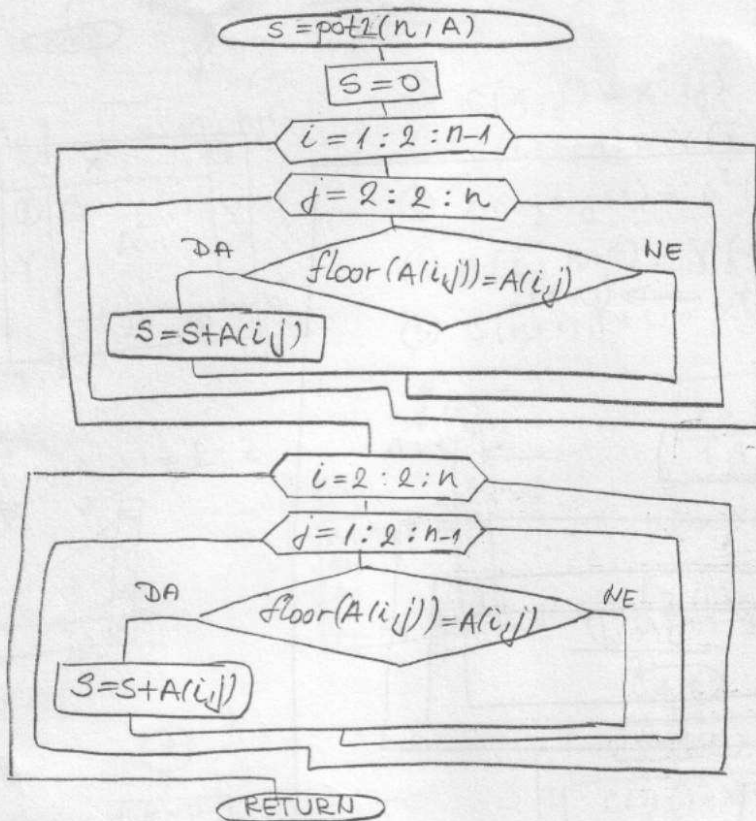
3.9.2007.

1)

a)



8)

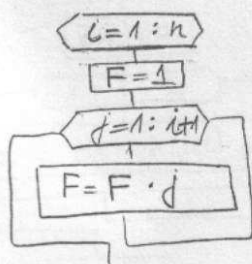


$i = 1 : 2 : n-1 \rightarrow j = 2 : 2 : n$

$i = 2 : 2 : n \rightarrow j = 1 : 2 : n-1$

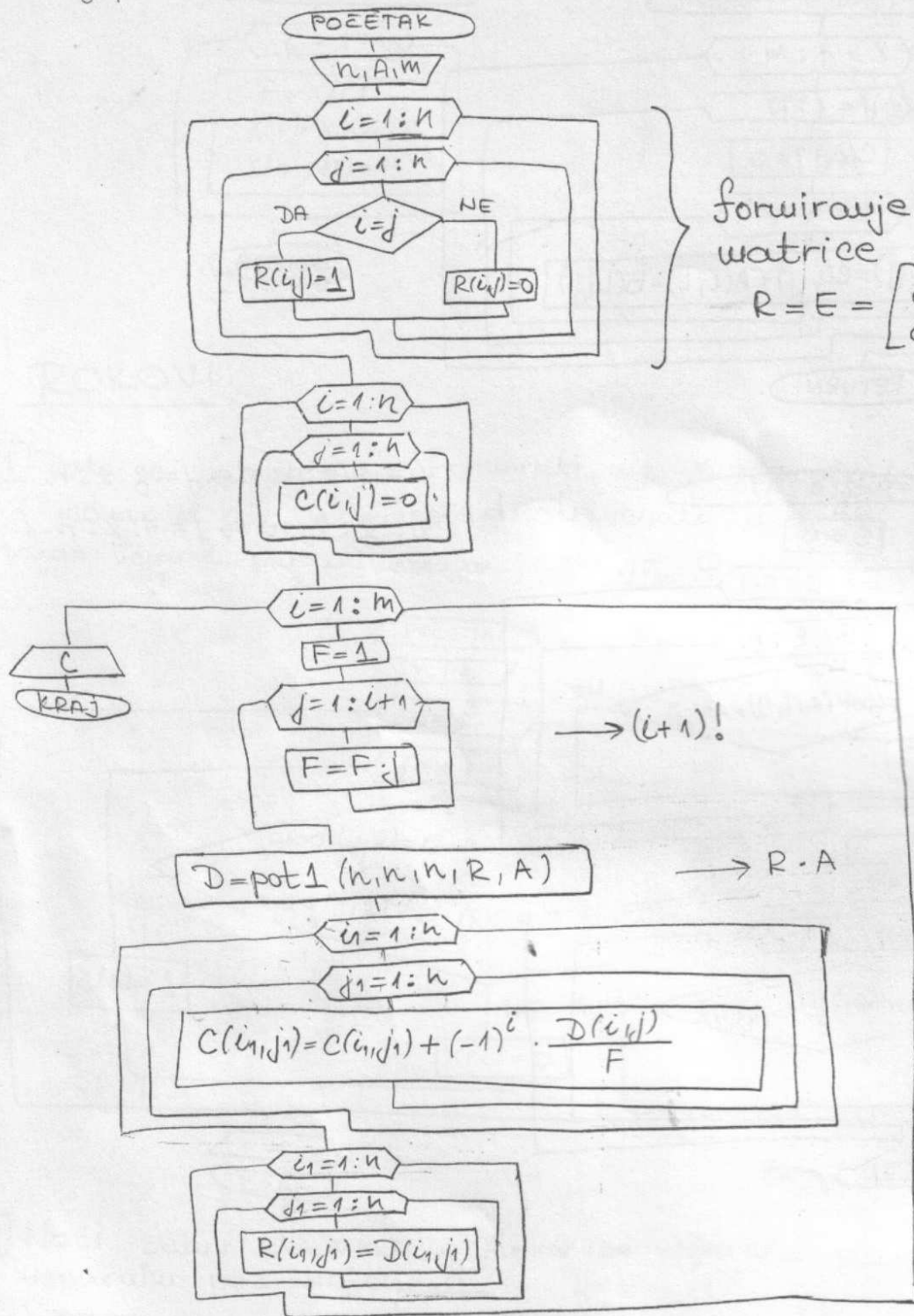
8.) Factorial

$$(i+1)! = (i+1) \cdot i \cdot (i-1) \cdot \dots \cdot 2 \cdot 1$$



$$\begin{array}{lcl}
 A^n & & \\
 i=1 & A^1 = E \cdot A & \\
 i=2 & A^2 = A \cdot A & \\
 i=3 & A^3 = A^2 \cdot A & \\
 \hline
 & \downarrow & \\
 & D = R \cdot A &
 \end{array}$$

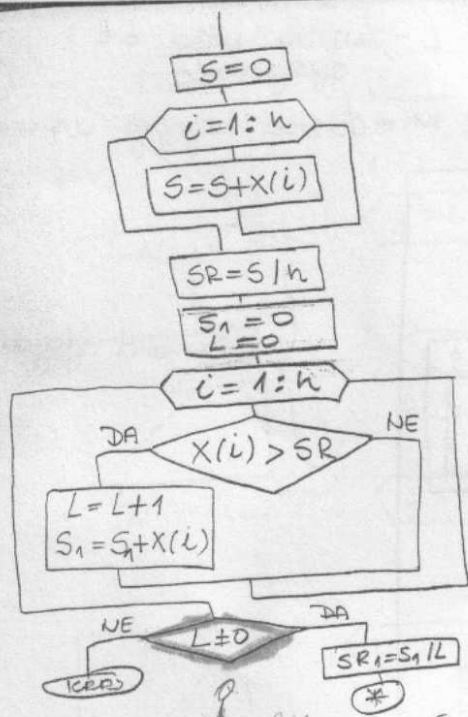
$$C = \sum_{l=1}^m (-1)^l \frac{A^l}{(l+1)!}$$



2 a)

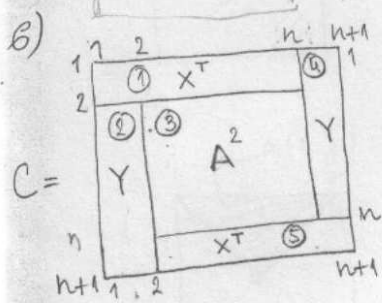


8)



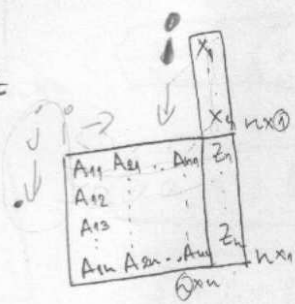
~~A~~

$$R = A^2$$



- ① $C(1, j) = X^T(j)$
- ② $C(i+1, 1) = Y(i)$
- ③ $C(i+1, j+1) = A^2(i, j) = R(i, j)$
- ④ $C(i, n+1) = Y(i)$
- ⑤ $C(n+1, j+1) = X^T(j)$

$$Y = X^T \cdot X \cdot A^T \cdot X = P \cdot Z$$

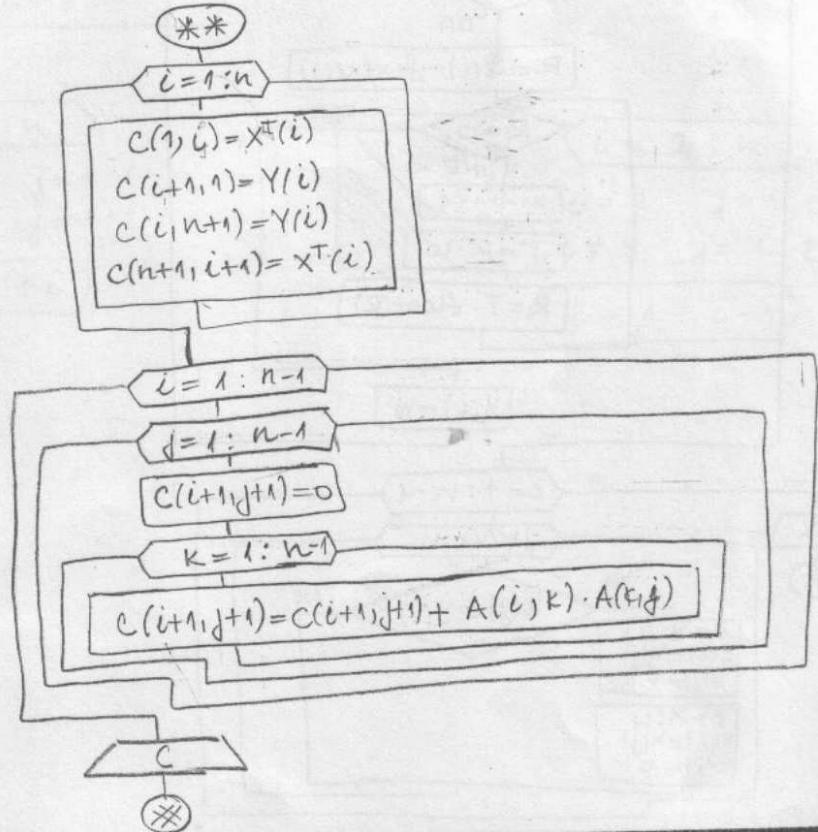
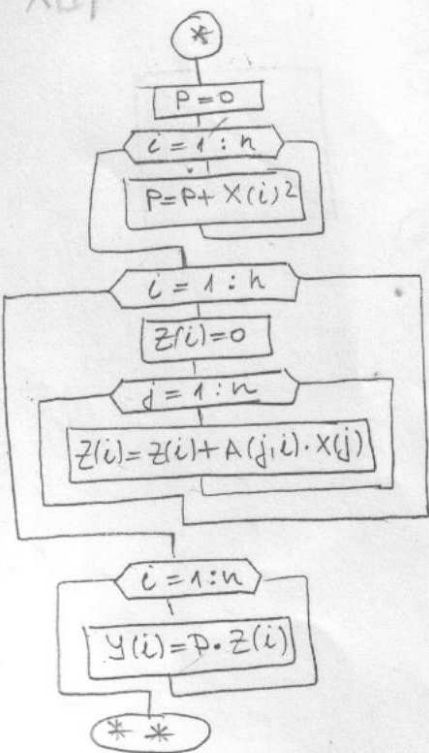


$$P = P + X(i)^2$$

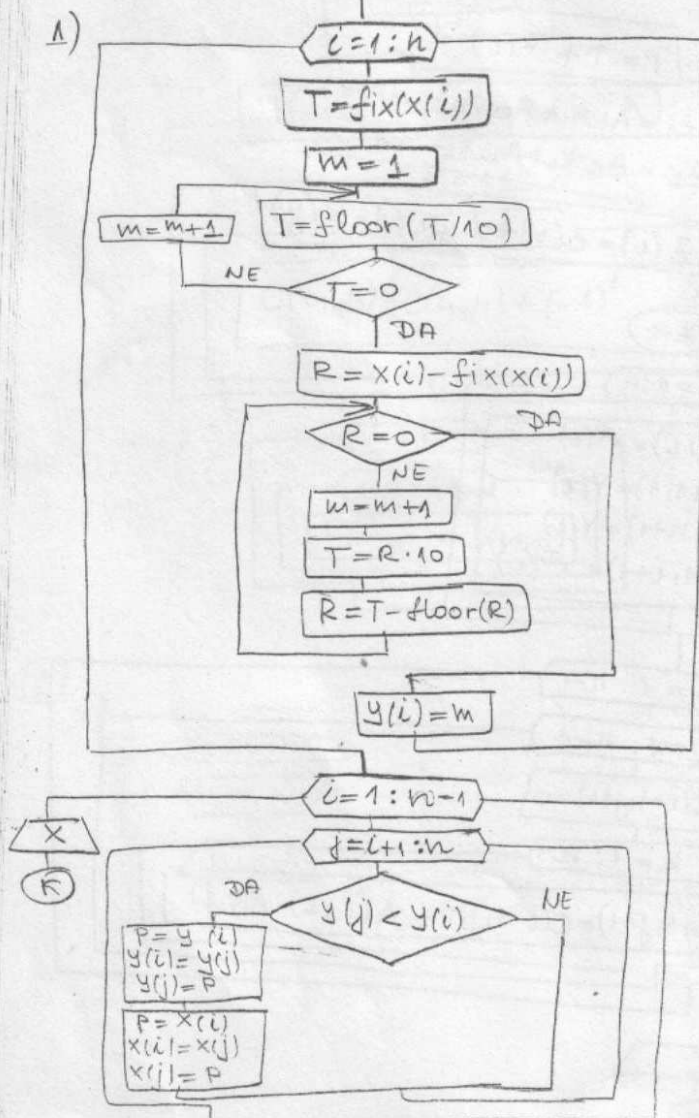
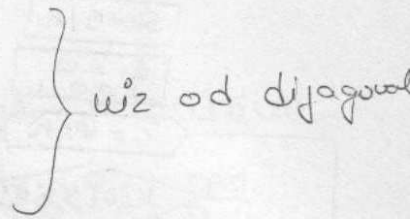
$$Z_1 = A_{11}X_1 + A_{12}X_2 + \dots + A_{1n}X_n$$

$$Z_2 = A_{21}X_1 + A_{22}X_2 + \dots + A_{2n}X_n$$

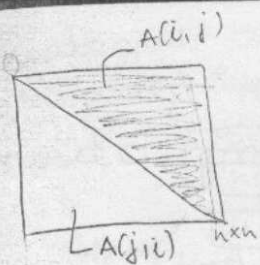
$$Z(i) = Z(i) + A(j, i) \cdot X(j)$$



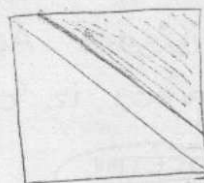
m - duża krajowa wra z



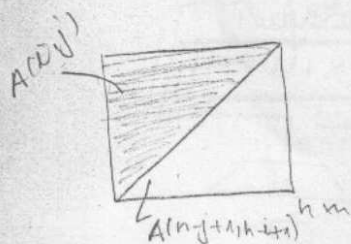
*



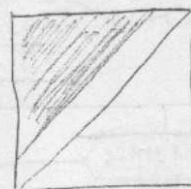
$$\begin{aligned} &L = 1:n \\ &i = 1 \quad j = 1:n \\ &i = 2 \quad j = 2:n \\ &j = L:n \end{aligned}$$



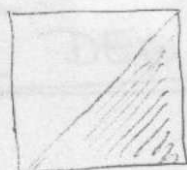
$$\begin{aligned} &i = 1:n-1 \\ &i = 1 \quad j = 2:n \\ &i = 2 \quad j = 3:n \\ &j = L+1:n \end{aligned}$$



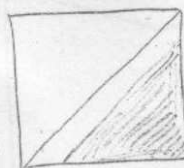
$$\begin{aligned} &L = 1:n \\ &i = 1 \quad j = 1:n \\ &i = 2 \quad j = 1:n-1 \\ &j = 1:n-L+1 \end{aligned}$$



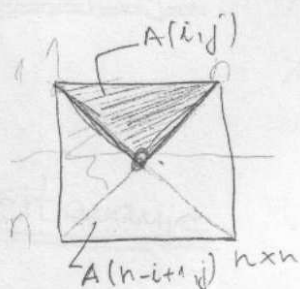
$$\begin{aligned} &i = 1:n-1 \\ &j = 1:n-i \end{aligned}$$



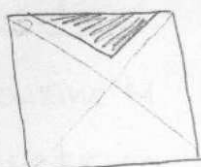
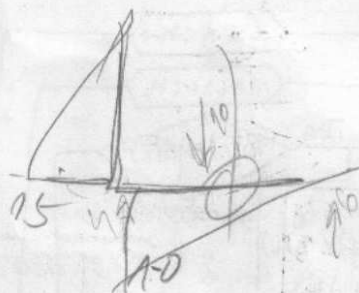
$$\begin{aligned} &L = 1:n \\ &i = 1 \quad j = n:n \\ &i = 2 \quad j = n-1:n \\ &j = n-i+1:n \end{aligned}$$



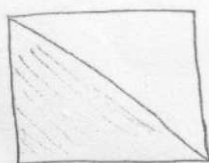
$$\begin{aligned} &L = 2:n \\ &i = 2 \quad j = n:n \\ &i = 3 \quad j = n-1:n \\ &j = n-i+2:n \end{aligned}$$



$$\begin{aligned} &i = 1: \frac{n+1}{2} \\ &j = i: (n-i+1) \end{aligned}$$



$$\begin{aligned} &i = 1: \frac{n+1}{2} - 1 \\ &j = i+1: n-i \end{aligned}$$



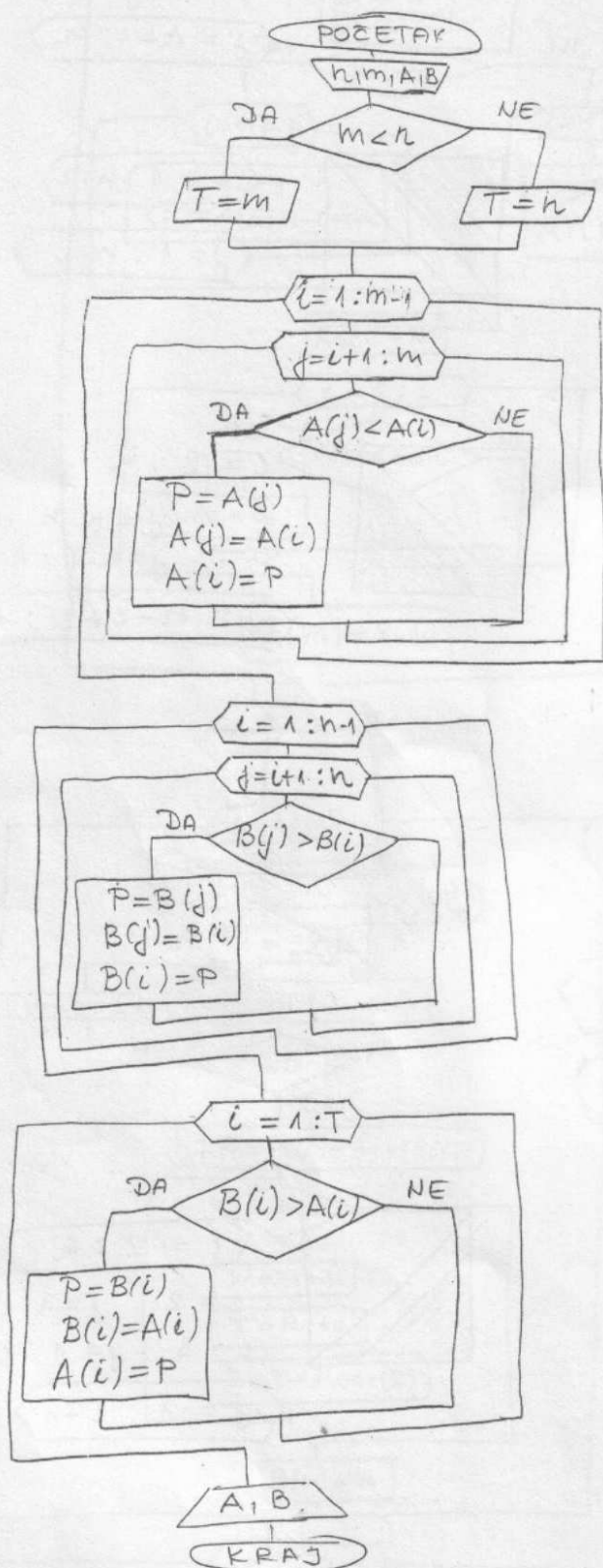
$$\begin{aligned} &L = 1:n \\ &i = 1 \quad j = 1:1 \\ &i = 2 \quad j = 1:2 \\ &j = 1:i \end{aligned}$$



$$\begin{aligned} &L = 2:n \\ &i = 2 \quad j = 1:1 \\ &i = 3 \quad j = 1:2 \\ &j = 1:i-1 \end{aligned}$$

✱

1 Transformisati uizove A duzine m i B duzine n tako da se u A ualaze najveći iz oĉa wiza, a u B najwajji iz oĉa wiza

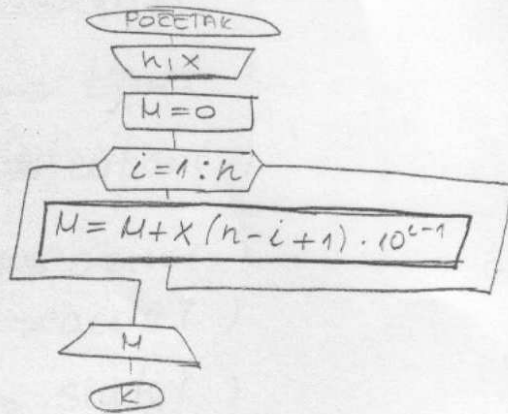


sortiramo A u rastući,
B u opadajući

} A u rast.

} B u opad.

2. Smatrajuci da je nizovi X duzine n prikazati broj M, uaci taj broj



→ niz u cifru

II DEO ISPITA

Opisi polja

%d → celobrojni podaci

%f → realni podaci

Ucitavanje

M, N, X, A, t

X - niz duzine M

A_{MxN} - matrica

saivi Girawo

iwe datoteka

iwe = fopen('GGBBB.TXT');

M = fscanf(iwe, '%d', 1);

N = fscanf(iwe, '%d', 1);

X = fscanf(iwe, '%f', M);

A_{MxN}

A = fscanf(iwe, '%f', [N, M]); - po vrstama
ili

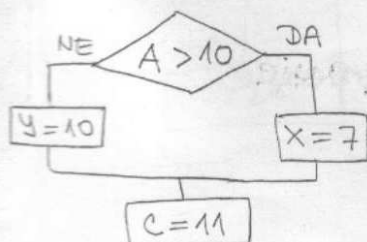
A = fscanf(iwe, '%f', [M, N]); - po kolonama

t = fscanf(iwe, '%f', 1);

fclose(iwe);

Pitanja

1



if A > 10

x = 7;

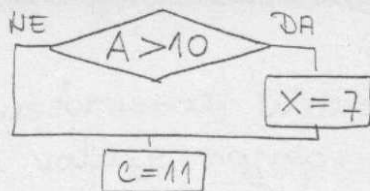
else

y = 10;

end

C = 11;

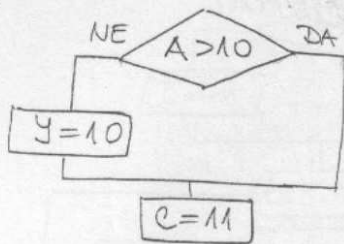
2



```

if A > 10
  X = 7;
end
C = 11;
  
```

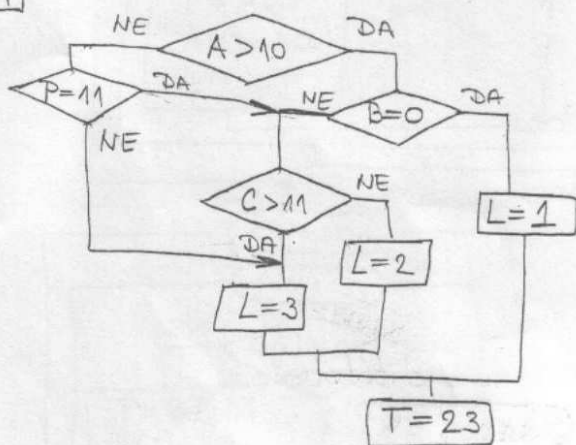
3



```

if A > 10
else
  Y = 10;
end
C = 11;
  
```

4



```

if A > 10
  if B == 0
    L = 1;
  else
    if C > 11
      L = 3;
    else
      L = 2;
    end
  end
else
  if P == 11
    if C > 11
      L = 3;
    else
      L = 2;
    end
  else
    L = 3;
  end
end
T = 23;
  
```

>	>
<	<
≥	>=
≤	<=
=	==
≠	~ =
∧	&
∨	

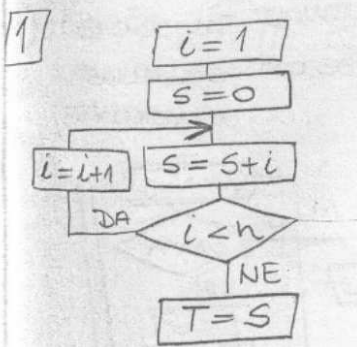
; sprečava štampanje
na ekranu

$\sin \rightarrow \sin ()$
 $\cos \rightarrow \cos ()$
 $tg \rightarrow \tan ()$
 $ctg \rightarrow \cotan ()$
 $\arcsin \rightarrow \arcsin ()$
 $\arccos \rightarrow \arccos ()$
 $sh \rightarrow \sinh ()$
 $ch \rightarrow \cosh ()$

$ash \rightarrow \operatorname{asinh} ()$
 $\log \rightarrow \log_{10} ()$
 $lu \rightarrow \log ()$
 $\sqrt{} \rightarrow \operatorname{SQRT} ()$
 $\log_2 \rightarrow \log_2 ()$
 $| | \rightarrow \operatorname{abs} ()$
 $e \rightarrow \exp ()$
 $x^5 \rightarrow x^{\wedge} 5$
 $\pi \rightarrow \pi$

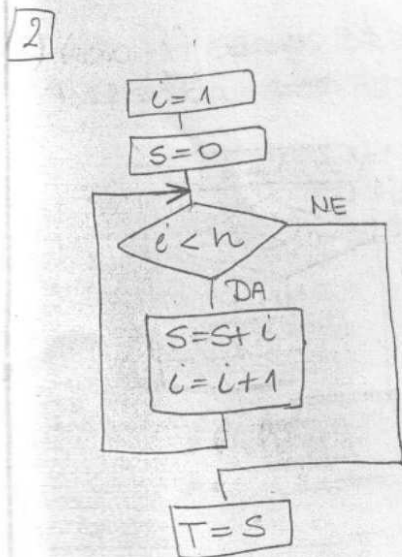
CIKLUSI

I WHILE



```

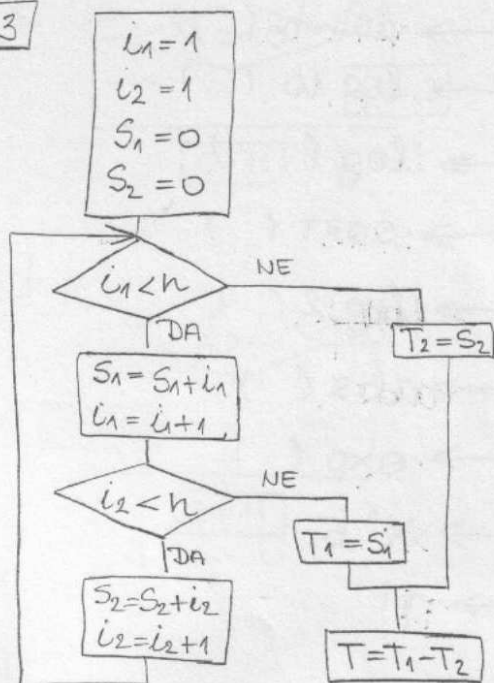
i = 1;
S = 0;
while 1
    S = S + i
    if i < n
        i = i + 1
    else
        break
    end
end
T = S
  
```



```

i = 1;
S = 0;
while
    if i < n
        S = S + i;
        i = i + 1;
    else
        break
    end
end
T = S
  
```

3

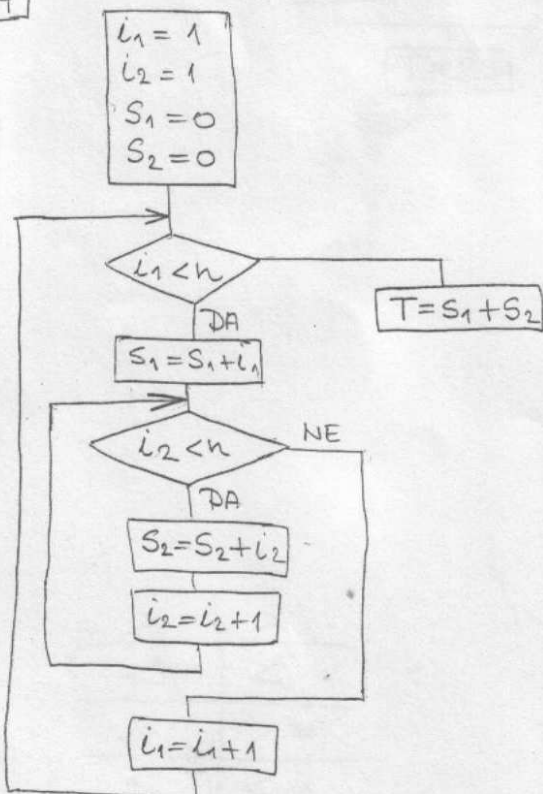


```

i1 = 1 ;
i2 = 1 ;
S1 = 0 ;
S2 = 0 ;
while 1
  if i1 < n
    S1 = S1 + i1 ;
    i1 = i1 + 1 ;
    if i2 < n
      S2 = S2 + i2 ;
      i2 = i2 + 1 ;
    else
      T1 = S1 ;
      break
    end
  else
    T2 = S2 ;
    break
  end
end
T = T1 - T2 ;

```

4



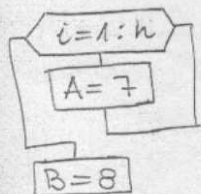
```

i1 = 1 ;
i2 = 1 ;
S1 = 0 ;
S2 = 0 ;
while 1
  if i1 < n
    S1 = S1 + i1 ;
    while 2
      if i2 < n
        S2 = S2 + i2 ;
        i2 = i2 + 1 ;
      else
        break
      end
    end
    i1 = i1 + 1 ;
  else
    break
  end
end
T = S1 + S2 ;

```


IFOR

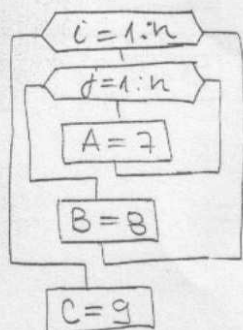
1



```

for i=1:n
  A=7;
end
B=8;
  
```

2

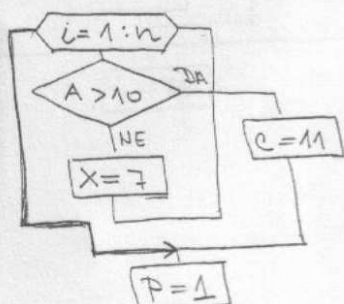


```

for i=1:n
  for j=1:n
    A=7;
  end
  B=8;
end
C=9;
  
```

* BREAK U FOR NAREDBI

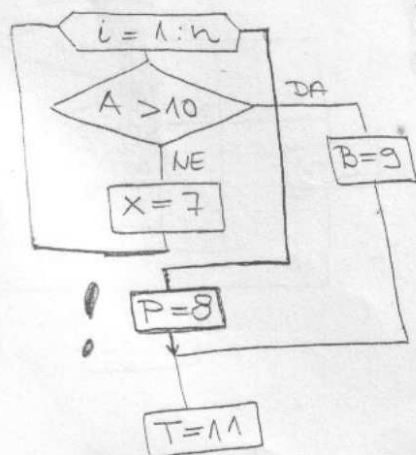
1) Iskaće iz prvog ciklusa i posle „normalnog“ završetka ciklusa nastaviti zasebnu naredbu do trenutka spajanja sa glavom iskakanja



```

for i=1:n
  if A > 10
    C=11;
    break
  else
    X=7;
  end
end
P=1;
  
```

2) Kao 1) samo što posle završetka ciklusa postoji zasebna naredba pre trenutka spajanja

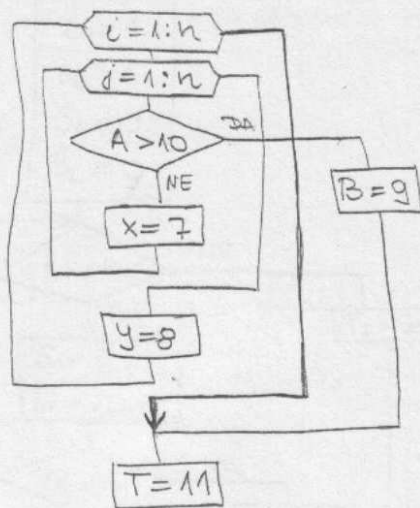


```

for i=1:n
  if A > 10
    B=9;
    break
  else
    X=7;
  end
end
if A > 10
else
  P=8;
end
T=11;
  
```

dodatno pitanje

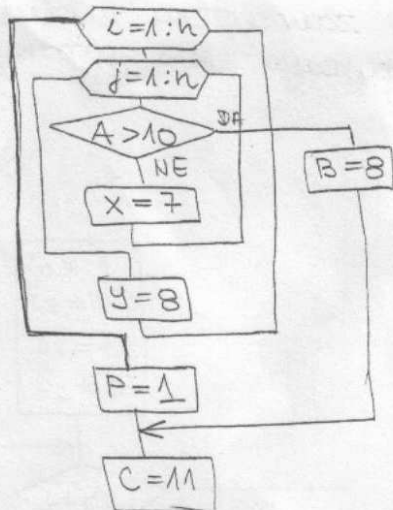
3) Dva ciklusa, uena uaredbe do treutka spajaj'a



```

for i = 1 : n
    for j = 1 : n
        if A > 10
            B = 9;
            break
        else
            x = 7;
        end
    end
    T = 11;
end
  
```

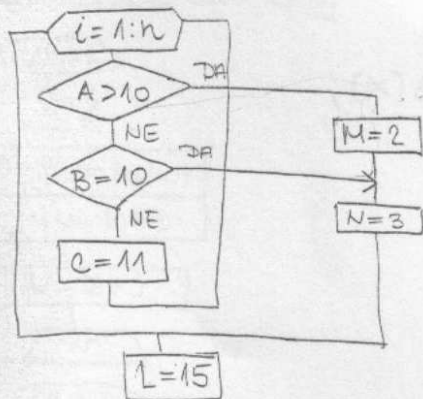
4) Dva ciklusa, postoji uaredba pre treutka spajaj'a



```

for i = 1 : n
    for j = 1 : n
        if A > 10
            B = 8;
            break
        else
            x = 7;
        end
    end
    if A > 10
        break
    else
        y = 8;
    end
    P = 1;
end
C = 11;
  
```

5)

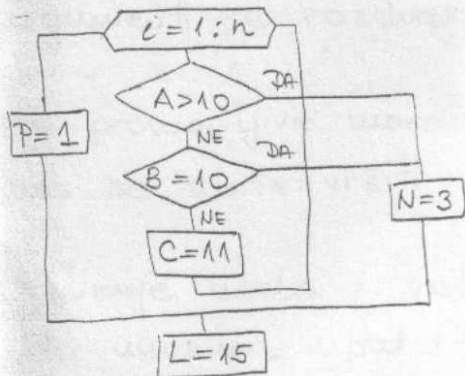


```

for i = 1:n
    if A > 10
        M = 2;
        N = 3;
        break
    else
        if B == 10
            N = 3;
            break
        else
            C = 11;
        end
    end
end
L = 15;

```

6)

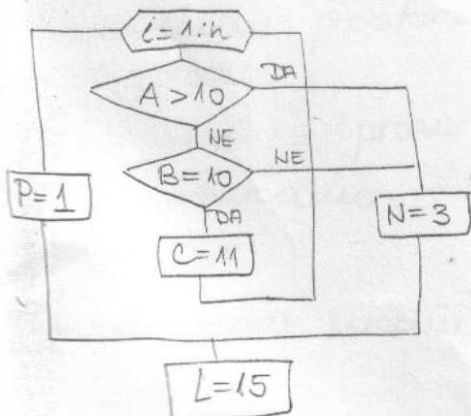


```

for i = 1:n
    if A > 10
        N = 3;
        break
    else
        if B == 10
            N = 3;
            break
        else
            C = 11;
        end
    end
end
L = 15;

```

6.a)



```

for i = 1:n
    if A > 10
        N = 3;
        break
    else
        if B == 10
            C = 11;
        else
            N = 3;
            break
        end
    end
end
L = 15;

```


⊛ Potprogram:

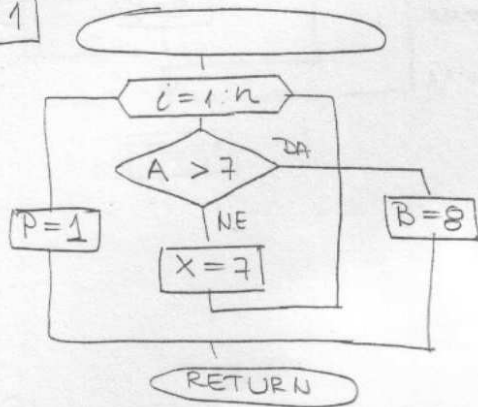
$$y = \text{DGGBBB}(x)$$

function $y = \text{DGGBBB}(x);$

⋮

RETURN

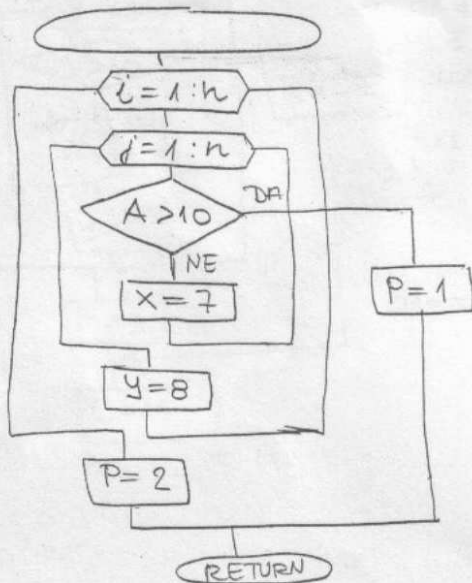
1



```

for i=1:n
  if A > 7
    B=8;
    return
  else
    X=7;
  end
end
P=1;
return
  
```

2

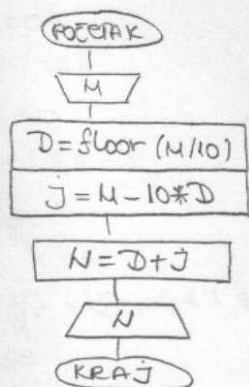


```

for i=1:n
  for j=1:n
    if A > 10
      P=1;
      return
    else
      X=7;
    end
  end
  Y=8;
end
P=2;
return
  
```

I

1 Učitati dvocifren broj



```

m=input('unesi dvocifren broj');
d=floor(m/10);
j=m-10*d;
n=d+j;
disp(n);
  
```

- sve komande završavaju sa ; (ako ne želimo da piše uvo saw, računao...)
- floor(2,99)=2 - funkcija jednog argumenta
- argumenti se razdvajaju zarezom
- + - * ^
- ime promenljive mora početi slovom, ne sve cifre
- Uvo se može vršiti: 1) formatizovan (da li je broj ceo ili realan...)
- 2) input - upisujemo broj
- Razlikuje mala i velika slova; komanda se pišu malim
- šta unosim = input (tekst koji se pojavljuje)

Za prikaz:

- 1) formatizovan (tačno def., da li je realan ili ceo, koliko dec...)
- 2) disp (od display) ili u-bez;

- uvek otkucati za kraj

- Svaki podatak se unosi posebnom komandom input; jednom komandom disp se može odštampati više vrednosti.

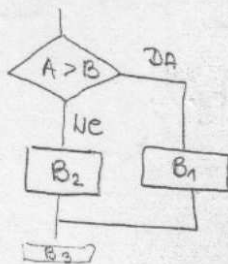
U komandnom prostoru pokrećemo program, ili ga koristimo kao digitron

New - otvara se prozor editora u kome kucamo program
kad ga otkucamo čuvamo ga na disku ž u folderu
Matlab, iwe

- U prvom prozoru kucamo iwe eof.

Uvesite trocifren broj; odrediti; odštampati broj zapisan
isti ciframa u obrnutom poretku

Razgrauate strukture



if $A > B$

B_1 - kowanda iz ovog bloka

else

B_2

end

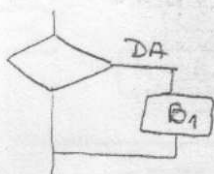
- završava se if

B_3

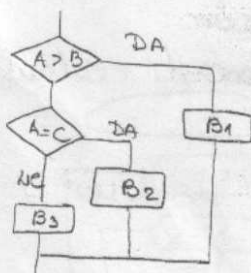
$>$
 \geq
 $<$
 $=$
 \neq

operatori
poređevja

- različito



- ne moramo da
pišemo else



if $A > B$

B_1

else

if $A = C$

B_2

else

B_3

end

end

- ako je prva kowanda u
else grani možemo da
pišemo else if

uena svoj
end

if $A > B$

B_1

else if $A = C$

B_2

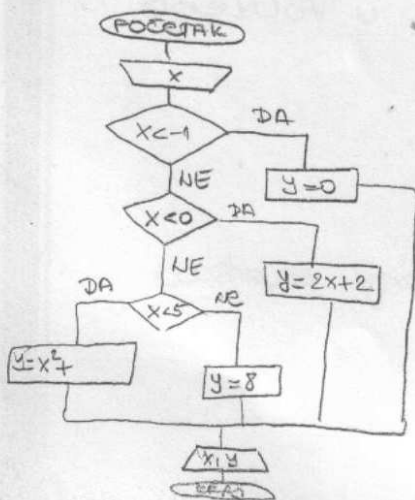
else

B_3

end

1) Učitati x i izračunati

$$y = \begin{cases} 0 & , x < -1 \\ 2x+12 & , -1 \leq x < 0 \\ 8 & , 0 \leq x < 5 \\ 8 & , x \geq 5 \end{cases}$$




```
x=input('unesi x');
```

```
if x < -1
```

```
    y=0;
```

```
else
```

```
    if x < 0
```

```
        y=2*x+2;
```

```
    else
```

```
        if x < 5
```

```
            y=x^2-4*x+3;
```

```
        else
```

```
            y=8;
```

```
        end
```

```
    end
```

```
end
```

```
disp(x);
```

```
disp(y);
```

```
and ^ 8
```

```
or v 1
```

```
not 7 !
```

ili

```
x=input('unesi x');
```

```
if x < -1
```

```
    y=0;
```

```
elseif x < 0
```

```
    y=2*x+2;
```

```
elseif x < 5
```

```
    y=x^2-4*x+3;
```

```
else
```

```
    y=8;
```

```
end
```

```
disp(x);
```

```
disp(y);
```