ZI. 2008/09

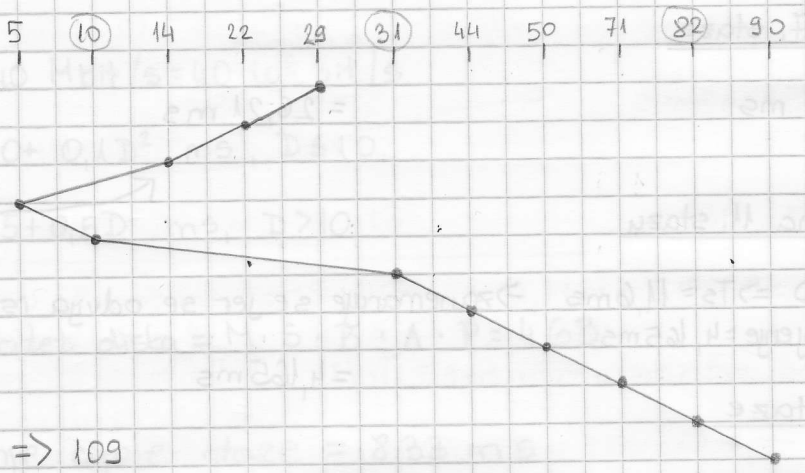
A

1. A 22, 50, 14, 71, 5, 44, 90

15 → 29

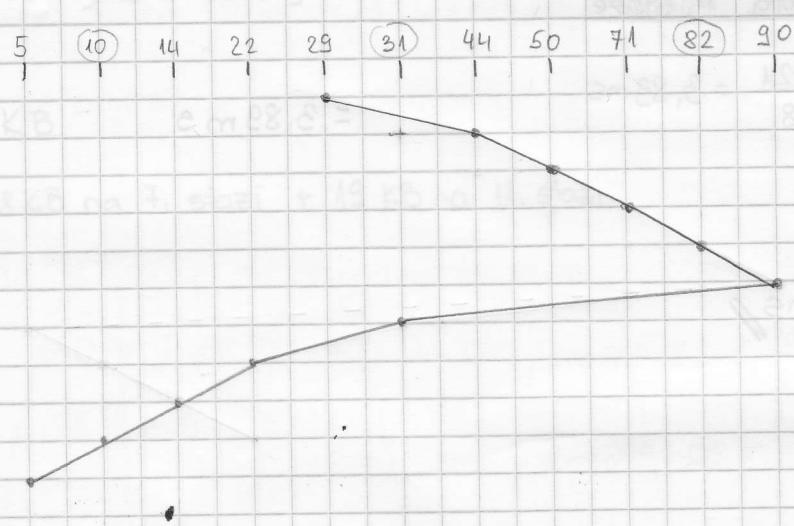
nakon tri → 31, 10, 82

SSTF



=> 109

LOOK



(2) A

program ⇒ 400 riječi

stranica ⇒ 50 riječi

1-50 → 1	201-250 → 5
51-100 → 2	251-300 → 6
101-150 → 3	301-350 → 7
151-200 → 4	351-400 → 8

33	11	328	76	145	33	400	151	11	328	276	367
1	1	7	2	3	1	8	4	1	7	6	8

LFU

1	1	7	2	3	1	8	4	1	7	6	8

1		1	1	1		1	1		1	1	1
-		7	7	3		3	4		4	6	8
-		-	2	2		8	8		7	7	7

OPT

1	1	7	2	3	1	8	4	1	7	6	8

1		1	1	1		1	1			6	6
-		7	7	7		7	7			7	8
-		-	2	3		8	4			4	4

(3.) A

3 okvira

- redovi ⇒ gledamo lijevi indeks

			stranice koje se dohvaćaju
i = 1			
j = 1	→	A[1][1] = B[1][1]	1 6
j = 2	→	A[1][2] = B[2][1]	1 7
j = 3	→	A[1][3] = B[3][1]	1 8
j = 4	→	A[1][4] = B[4][1]	1 9
j = 5	→	A[1][5] = B[5][1]	1 10
i = 2			
j = 1	→	A[2][1] = B[1][2]	2 6
j = 2	→	A[2][2] = B[2][2]	2 7
j = 3	→	A[2][3] = B[3][2]	2 8
j = 4	→	A[2][4] = B[4][2]	2 9
j = 5	→	A[2][5] = B[5][2]	2 10

Svaki red matrice ⇒ 1 stranica

A[1] = 1	B[1] = 6
A[2] = 2	B[2] = 7
A[3] = 3	B[3] = 8
A[4] = 4	B[4] = 9
A[5] = 5	B[5] = 10

FIFO

(3)A

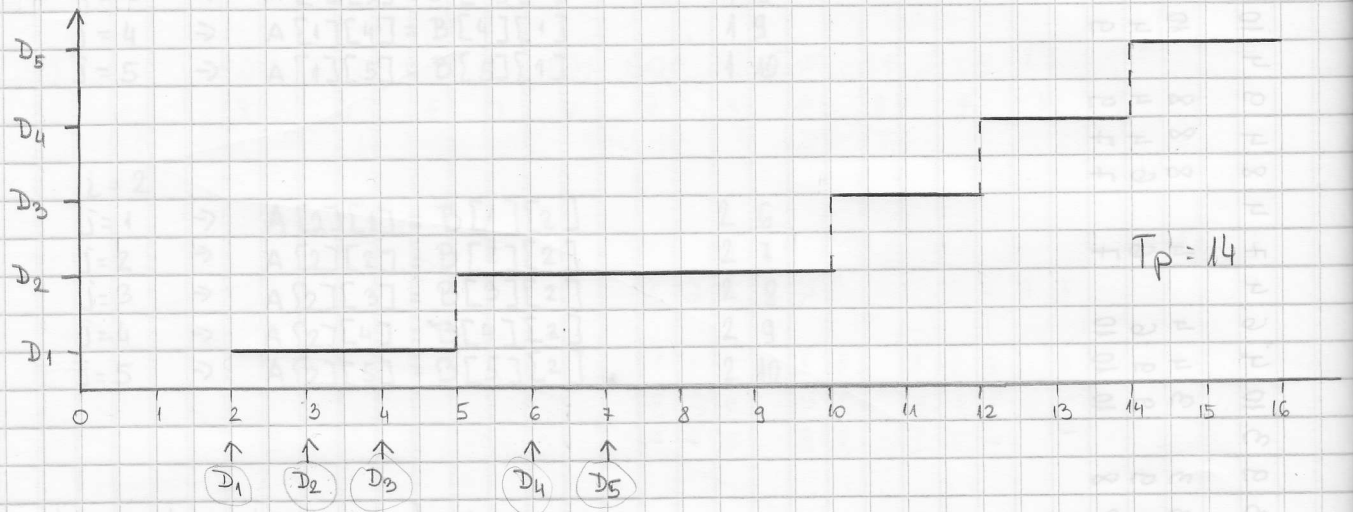
1	6	1	7	1	8	1	9	1	10	2	6	2	7	2	8	2	9	2	10	3	6	3	7	3	8	3	9	3	10	4	6	4	7	4	8	4	9	4	10	5	6	5	7	5	8	5	9	5	10
1	1		1		8	8	8		10	10	10		7		7	7	9		9	9	6		6		6	3	3		3	4	4		4		8	8	8		10	10	10		7		7	7	9		9	
-	6		6		6	1	1		1	2	2		2		8	8	8		10	10	10		7		7	7	9		9	9	6		6		6	4	4		4	5	5		5		8	8	8		10	
-	-		7		7	7	9		9	9	6		6		6	2	2		2	3	3		3		8	8	8		10	10	10		7		7	7	9		9	9	6		6		6	5	5		5	

PROMAŠAJI = 35

(6) A

Posao	t_d	T_p
D_1	2	3
D_2	3	5
D_3	4	2
D_4	6	2
D_5	7	2

$T_d = 20$



Posao	t_d	t_n	T	T_r	T_p
D_1	2	5	3	0	3
D_2	3	10	7	2	5
D_3	4	12	8	6	2
D_4	6	14	8	6	2
D_5	7	16	9	7	2

$$\overline{T} = \frac{3+7+8+8+9}{5} = 7$$

$$\overline{T_r} = \frac{0+2+6+6+7}{5} = 4,2$$

$$\bar{n} = \frac{2 \cdot \overline{T}}{T_d} = 1,75$$

$$\alpha = \frac{5}{T_d} = 0,25$$

$$\beta = \frac{5}{T_p} = \frac{5}{14}$$

$$\psi = \frac{\alpha}{\beta} = \frac{\frac{5}{20}}{\frac{5}{14}} = \frac{14}{20} = \frac{7}{10} = 0,7$$

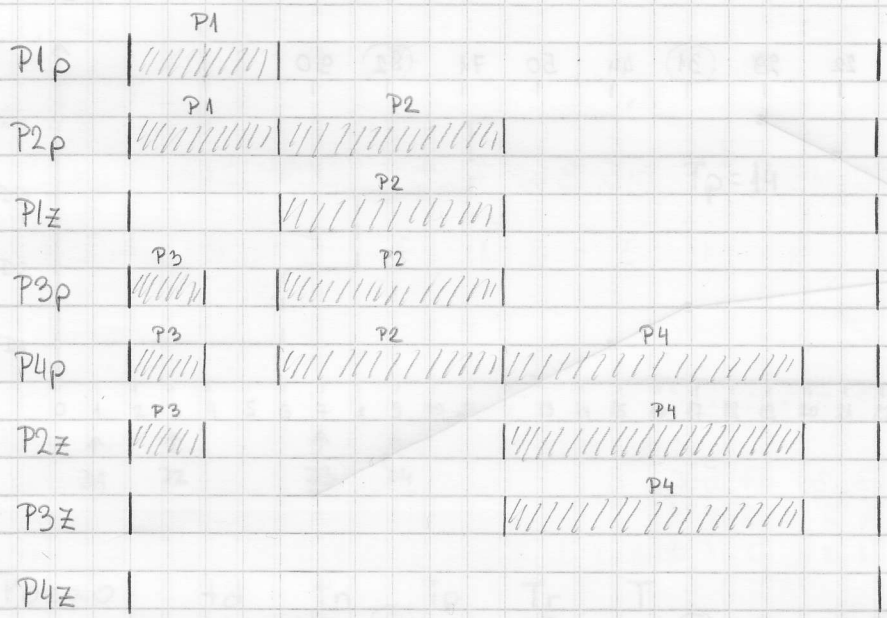
$$\eta = \psi \cdot 100\% = 70\%$$

(7.) A

10 MB → veličina glavnog spremnika

P1 = 2 MB
P2 = 3 MB
P3 = 1 MB
P4 = 4 MB

P1p → P2p → P1z → P3p → P4p → P2z → P3z → P4z



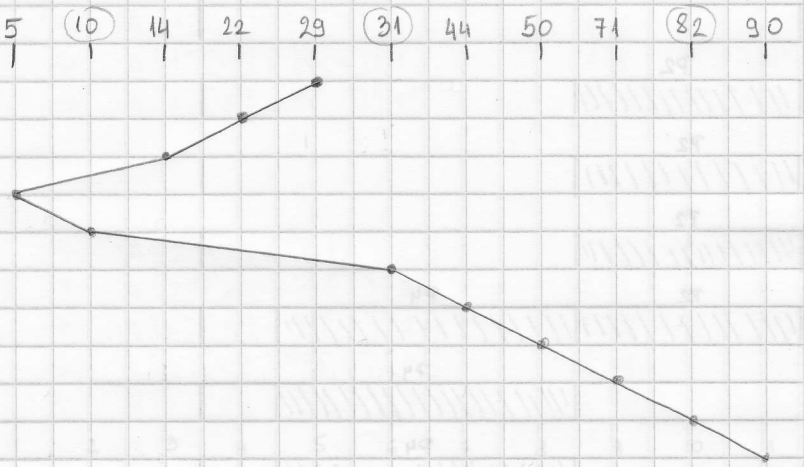
B

1. B 45 → 29

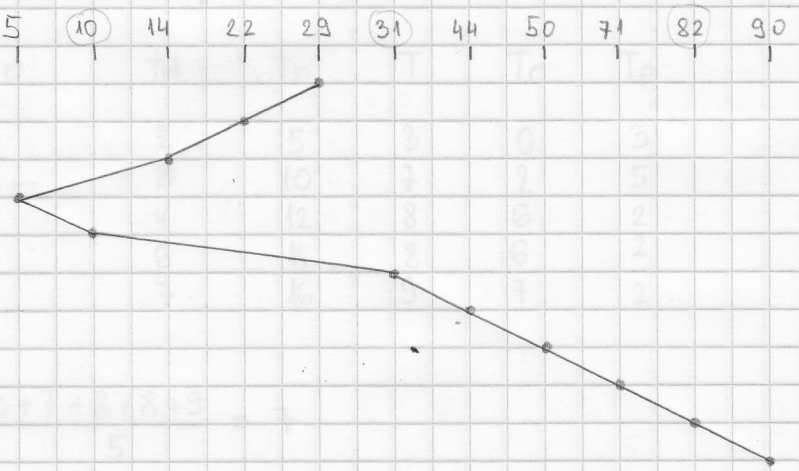
5, 14, 22, 44, 50, 71, 90

- nakon 3 obrađena → 10, 31, 82

SSTF



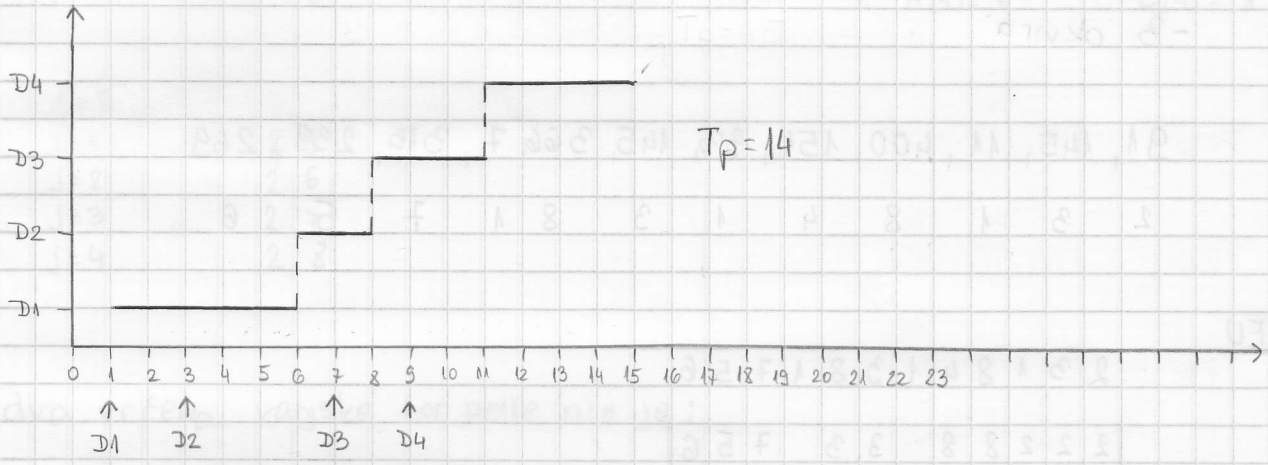
LOOK



(2.) B

$T_d = 20$

Posao	td	Tp
D1	1	5
D2	3	2
D3	7	3
D4	9	4



Posao	td	tn	Tp	Tr	T
D1	1	6	5	0	5
D2	3	8	2	3	5
D3	7	11	3	1	4
D4	9	15	4	2	6

a) $\overline{T_r} = \frac{0+3+1+2}{4} = 1,5$

b) $\overline{n} = \frac{i \cdot \overline{T}}{T_d} = \frac{4 \cdot 5}{20} = 1$ $\quad \overline{T} = \frac{5+5+4+6}{4} = 5$

c) $\alpha = \frac{\overline{n}}{\overline{T}} = \frac{4}{T_d} = \frac{4}{20}$ $\quad \varphi = \frac{\alpha}{\beta} = \frac{\frac{4}{20}}{\frac{4}{14}} = \frac{\cancel{14}^{7}}{\cancel{20}_{10}} = 0,7$

$\beta = \frac{4}{T_p} = \frac{4}{14}$

$\eta = \varphi \cdot 100\% = 70\%$

(3) B

program - 400 riječi

stranica - 50 riječi

1 - 50 = 1	201 - 250 = 5
51 - 100 = 2	251 - 300 = 6
101 - 150 = 3	301 - 350 = 7
151 - 200 = 4	351 - 400 = 8

- 3 okvira

91, 145, 11, 400, 151, 33, 145, 366, 7, 313, 239, 269

2 3 1 8 4 1 3 8 1 7 5 6

LFU

2 3 1 8 4 1 3 8 1 7 5 6

2	2	2	8	8		3	3		7	5	6
-	3	3	3	4		4	8		8	8	8
-	-	1	1	1		1	1		1	1	1

OPT

2 3 1 8 4 1 3 8 1 7 5 6

2	2	2	8	4			4		4	5	5
-	3	3	3	3			8		8	8	6
-	-	1	1	1			1		7	7	7

④ B

→ red je jedna stranica ⇒ gledamo lijevi indeks

i = 1	stranice koje se dohvaćaju	svaki red matrice ⇒ 1 stranica	
j = 1	1 5	A[1] = 1	B[1] = 5
j = 2	1 6	A[2] = 2	B[2] = 6
j = 3	1 7	A[3] = 3	B[3] = 7
j = 4	1 8	A[4] = 4	B[4] = 8
i = 2			
j = 1	2 5		
j = 2	2 6		
j = 3	2 7		
j = 4	2 8		

Za dva vrćenja vanjske for pethe niz je:

FIFO 1 5 1 6 1 7 1 8 | 2 5 2 6 2 7 2 8

1	1	1	1	8	8	8	8	7	7	
-	5	5	5	5	2	2	2	2	8	
-	-	6	6	6	6	5	5	5	5	
-	-	-	7	7	7	7	6	6	6	...

↑ prvo vrćenje vanjske for petlje

↑ druga vrćenje vanjske for petlje

- vidimo da za jedno vrćenje vanjske for petlje dolazi do 5 promašaja što znači da je za 4 vrćenja vanjske for petlje ukupno 20 promašaja

PROMAŠAJI = 20

(7.) B

prostor veličine 10 MB

P1	4 MB
P2	1 MB
P3	2 MB
P4	3 MB

P1p ⇒ P2p ⇒ P1z ⇒ P3p ⇒ P2z ⇒ P4p ⇒ P3z ⇒ P4z