

⊕

Se planifica con CPU menor (en T1 y T3)

a)

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
T1	X	-	-	-	-	0	0	0	0	0	0	0	X	$\frac{5}{2}$											
T2		0	0	0	0	0	X	X	X	-	0	0	0	0	X	$\frac{5}{2}$									
T3	0	X	X	X	X	X	-	-	-	-	0	0	0	X	$\frac{5}{2}$										
T4				0	0	0	0	0	0	0	X	X	-	-	0	X	-	$\frac{5}{2}$							

T.espera T1 = 6 ciclos
 T.espera T2 = 7 ciclos
 T.espera T3 = 4 ciclos
 T.espera T4 = 2 ciclos
 T.espera-med = 6,5
 T.retorno T1 = 13 ciclos
 T.retorno T2 = 13 ciclos
 T.retorno T3 = 17 ciclos
 T.retorno T4 = 14 ciclos
 T.retorno-med = 14,25
 Productividad = $\frac{4}{17} = 0,235$

b)

Primero el de < tiempo CPU \rightarrow < E/S

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
T1	X	-	-	-	-	0	0	0	0	0	0	0	X	$\frac{3}{2}$											
T2	X	X	X	-	0	0	0	0	0	0	0	0	X	3											
T3	0	0	0	0	0	0	0	X	X	X	X	X	-	-	-	X	$\frac{5}{2}$								
T4				0	X	X	X	-	-	0	0	0	0	0	X	$\frac{3}{2}$									

T.espera-med = 6,75
 T.espera T1 = 6 ciclos
 T.espera T2 = 8 ciclos
 T.espera T3 = 7 ciclos
 T.espera T4 = 6 ciclos
 T.espera-med = 6,75
 T.retorno-med = 13,75
 T.ret T1 = 13 ciclos
 T.ret T2 = 13 ciclos
 T.ret T3 = 17 ciclos
 T.ret T4 = 17 ciclos
 Productividad = $\frac{4}{17} = 0,235$

c)
q=3

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
T1	X	-	-	-	-	0	X	$\frac{5}{2}$																	
T2		0	0	0	X	X	X	-	0	0	X	$\frac{5}{2}$													
T3	0	X	X	X	0	0	0	0	X	X	-	-	-	X	$\frac{5}{2}$										
T4				0	0	0	0	0	0	0	X	$\frac{5}{2}$													

T.espera T1 = 2 ciclos
 T.espera T2 = 5 ciclos
 T.espera T3 = 5 ciclos
 T.espera T4 = 8 ciclos
 T.espera-med = 4,75
 T.ret T1 = 8 ciclos
 T.ret T2 = 10 ciclos
 T.ret T3 = 15 ciclos
 T.ret T4 = 9 ciclos
 T.ret-med = 10,5

Productividad = $\frac{4}{15} = 0,26$

d)

7,5

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
T1	X	-	-	-	-	0	X	$\frac{5}{2}$																	
T2		0	X	0	X	0	0	0	X	-	0	X	$\frac{5}{2}$												
T3	0	X	0	X	0	0	X	0	0	0	X	0	0	X	-	-	-	X	$\frac{5}{2}$						
T4			0	0	X	0	0	0	X	0	0	X	-	-	X	$\frac{5}{2}$									

T.espera-med = 5,25
 T.espera T1 = 1 ciclo
 T.espera T2 = 6 ciclos
 T.espera T3 = 9 ciclos
 T.espera T4 = 7 ciclos
 T.ret-med = 13
 T.ret T1 = 8 ciclos
 T.ret T2 = 11 ciclos
 T.ret T3 = 14 ciclos
 T.ret T4 = 14 ciclos
 Productividad = $\frac{4}{19} = 0,21$

8)

a)

Turnos	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	X	0	0	0	0	X	0	0	0	0	X	0	0	0	X	0	0	0	X	0	0	X	0	0	X	0	X	0	0
B	0	X	0	0	0	0	X	0	0	0	0	X	0	0	0	X	0	0	0	X	0	0	X	0	X	0	0	0	0
C	0	0	X	0	0	0	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	X	0	0	0	0	X	0	0	0	X	0	0	0	X	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	X	0	0	0	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

$$t_{\text{ret. medio}} = \frac{27+12+18+11+17}{4} = 25,75$$

b)

Priority

Usando priority A.

Age	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	x	x	x	x	x	x	x	x	x	x	?																				
B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	?
C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	?														
D	0	0	0	0	0	0	0	0	0	0	x	x	x	x	?																
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	x	x	x	?						

E. ret. medio = 10.34

$$t_{\text{ret. medio}} = \frac{10+30+16+14+24}{4} = 23,5$$

c)

FCFS

seguirando 7P chegou em ordem alfabético

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	x	x	x	x	x	x	x	x	x	x	?																				
B	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	x	?														
C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	?												
D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	?									
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	x	?					

$$t_{\text{ret. med}} = \frac{10+16+22+30}{4} = 29,5$$

d) SSF

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
A	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

$$t_{\text{ret. medio}} = \frac{30+13+3+7+21}{4} = 18,5$$