

End-Sem

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12.) When $\text{mutex} = 1 \longrightarrow$ then only 1 process

All are blocked;

When 1st process in critical section;

for 5th process;

it unblocks any process & goes to critical section

So at max 6 process can enter;

13.) 20 page access causes \longrightarrow 20 faults.

if accessed in reverse order 1st; 4 won't cause faults.

$$\text{So, total} = 20 + 16 \\ = 36$$

page frames = 4;

pages = 1 20, 20(H) 1

$$\text{So, } 20 + 16 = 36$$

14) Available

| | | |
|---|---|---|
| X | Y | Z |
| 0 | 1 | 2 |

P1 execute first, as the needs are met
now; updated

| | | |
|---|---|---|
| X | Y | Z |
| 2 | 1 | 3 |

now; P0 will complete;

so; at last P2 complete the execution,

17)

| | |
|-----|-----|
| | 200 |
| 357 | 400 |
| 491 | 600 |
| 468 | 500 |
| | 300 |
| 210 | 250 |

Best fit approach;

fixed partitions;

hence;

200KB & 300KB will not be allotted to any -

18) Need = Max - allocated

$$A = 4$$

$$B = 5$$

$$C = \frac{2}{11}$$

16) 10 blocks;

$$LIFO = 20$$

$$\{opt = 20 \quad \} \quad 20 - 20 = 0$$

$$\begin{aligned}
 19.) &= 10 - (27 \times 1) + (20 \times 1) \\
 &= 10 - 27 + 20 \\
 &= 3
 \end{aligned}$$

$$\begin{aligned}
 21.) \text{ Disk movement} &= 66 + 61 + 23 + 110 + 2 \\
 &= 321
 \end{aligned}$$

$$\begin{aligned}
 22.) \text{ cylinder} &= (12 - 11) + (16 - 12) + (34 - 16) + (36 - 34) + (36 - 9) \\
 &\quad + (9 - 1) \\
 &= 60
 \end{aligned}$$

$$23.) (12 - 11) + (16 - 12) + (34 - 16) + (36 - 34) + (36 - 1) + (9 - 1) = 68$$

$$\begin{aligned}
 24.) & \text{ ~~108-32~~ } (98 - 32) + (98 - 37) + (37 - 14) + (124 - 14) + (124 - 65) \\
 &\quad + (67 - 65) \\
 &= 321
 \end{aligned}$$

$$25.) 30, 85, 90, 100, 105, 110, 135 \text{ and } 145;$$

$$\text{1st } 100 \rightarrow 105 \rightarrow 110 \rightarrow 90$$

3 requests

41.) 1GB
64 bit
1KB

8 bytes

256

Size of page table
2⁸.