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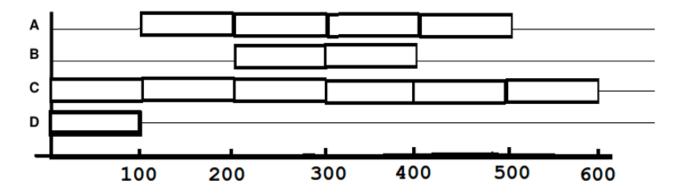
08 Sched - Schedulling Aneka Soal Ujian Sistem Operasi Rahmat M. Samik-Ibrahim et.al.

© 2016 - 2019 — Rev: 33 – 29-Sep-2019. URL: https://rms46.vlsm.org/2/203.pdf. Kumpulan soal ujian lainnya dapat diakses melalui URL: https://os.vlsm.org/. Silakan mengubah, memperbanyak, serta mendistribusikan dokumen ini selama tidak menghapus ketentuan ini!

1. **2016-1**

								K	ombina	si Mult	iprogram (%)			
	A	В	C	D	A+B	A+C	A+D	B+C	B+D	C+D	A+B+C	A+B+D	A+C+D	B+C+D	A+B+C+D
Utilitas CPU per proses A	10	-	-	-	9.3	9.3	9.2	-	-	-	8.3	8.1	7.8	-	7
Utilitas CPU per proses B	-	20	-	-	19	-	-	18	17	-	17	16	-	15	14
Utilitas CPU per proses C	-	-	30	-	-	28	-	26	-	25	25	-	23	22	21
Utilitas CPU per proses D	-	-	-	40	-	-	37	-	35	33	-	32	31	30	28

Diagram berikut ini dibentuk menggunakan data tabel di atas.



- (a) Berapa waktu CPU (CPU TIME) dari proses A?
- (b) Berapa waktu CPU (CPU TIME) dari proses B?
- (c) Berapa waktu CPU (CPU TIME) dari proses C?
- (d) Berapa waktu CPU (CPU TIME) dari proses D?
- (e) Berapa waktu total (TOTAL TIME) dari proses A?
- (f) Circle or cross T if true, and F if false:

 [T / F] Priority scheduling prevents starvation.

2. **2016-2**

There exists four (4) identical processes, with this following CPU utilization table:

		$\frac{\text{Multiprogramming Combination (\%)}}{A \mid A + A \mid A + A + A \mid A + A + A + A}$											
	A	A + A	A + A + A	A + A + A + A									
CPU utilization per proses A	10	9.5	9	8.6									

The CPU time of each processes is 43 seconds

Print the output when the system runs:

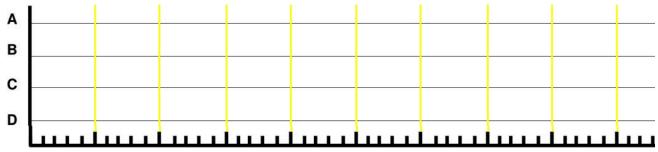
- (a) How long will be the total time to run concurrently all (4) processes together?!
- (b) How long will be the total time to run all (4) processes one by one?!

3. **2017-1**

								K	ombina	si Mult	iprogram (%)			
	A	В	C	D	A+B	A+C	A+D	B+C	B+D	C+D	A+B+C	A+B+D	A+C+D	B+C+D	A+B+C+D
Utilitas CPU per proses A	10	-	-	-	9.3	9.3	9.2	-	-	-	8.3	8.1	7.8	-	7
Utilitas CPU per proses B	-	20	-	-	19	-	-	18	17	-	17	16	-	15	14
Utilitas CPU per proses C	-	-	30	-	-	28	-	26	-	25	25	-	23	22	21
Utilitas CPU per proses D	-	-	-	40	-	-	37	-	35	33	-	32	31	30	28

Proses A dan B berjalan sejak t=0. Proses C mulai berjalan saat waktu CPU (*CPU time*) proses B mencapai 38 satuan waktu. Proses A berhenti setelah proses C berjalan selama 200 satuan waktu. Proses D hanya dijalankan setelah proses A berhenti. Semua proses yang masih berjalan berhenti pada saat t=600.

(a) Lengkapi diagram berikut ini:



- (b) Berapa waktu CPU (CPU TIME) proses A?
- (c) Berapa waktu CPU (CPU TIME) proses B?
- (d) Berapa waktu CPU (CPU TIME) proses C?
- (e) Berapa waktu CPU (*CPU TIME*) proses D?
- (f) Berapa waktu total (TOTAL TIME) proses A berjalan?
- (g) Berapa waktu total (TOTAL TIME) proses B berjalan?
- (h) Berapa waktu total (TOTAL TIME) proses C berjalan?
- (i) Berapa waktu total (TOTAL TIME) proses D berjalan?

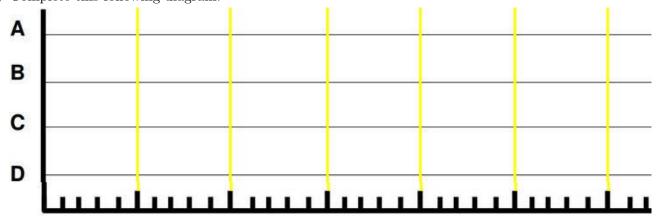
4. **2017-2**

Four (4) processes, A(90%, 14), B(80%, 60), C(70%, 64), D(60%, 161); where [W(X%, Y); W=process name; X=I/O Wait(%); Y=CPU Time] with this following CPU utilization table:

								Multi	prograi	nming	Combinatio	on (%)			
	A	В	C	D	A+B	A+C	A+D	B+C	B+D	C+D	A+B+C	A+B+D	A+C+D	B+C+D	A+B+C+D
Process A CPU utilization	10	-	-	-	9.3	9.3	9.2	-	-	-	8.3	8.1	7.8	-	7
Process B CPU utilization	-	20	-	-	19	-	-	18	17	-	17	16	-	15	14
Process C CPU utilization	-	-	30	-	-	28	-	26	-	25	25	-	23	22	21
Process D CPU utilization	-	-	-	40	-	-	37	-	35	33	-	32	31	30	28

All processes (A, B, C, and D) terminates at t=500. Process D starts at t=0. Processes A, B, and C start after process D.

(a) Complete this following diagram:



- (b) Calculate at what time processes A, B, and C start!
- (c) How long will be the TOTAL TIME of process D, if the process (D) runs alone?

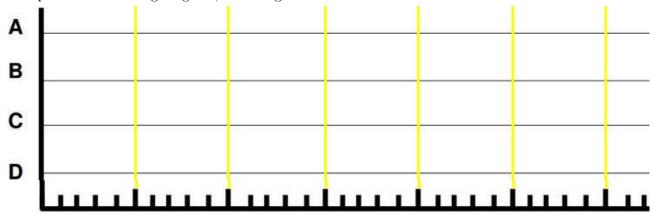
5. **2018-1**

Four (4) processes, A(46.8), B(17.0), C(53.0), D(37.0); where [X(Y); X = process name; Y = CPU Time] with this following CPU utilization table:

								Multi	prograi	nming	Combinatio	on (%)			
	Α	В	C	D	A+B	A+C	A+D	B+C	B+D	C+D	A+B+C	A+B+D	A+C+D	B+C+D	A+B+C+D
Process A CPU utilization	10	-	-	-	9.3	9.3	9.2	-	-	-	8.3	8.1	7.8	-	7
Process B CPU utilization	-	20	-	-	19	-	-	18	17	-	17	16	-	15	14
Process C CPU utilization	-	-	30	-	-	28	-	26	-	25	25	-	23	22	21
Process D CPU utilization	-	-	-	40	-	-	37	-	35	33	-	32	31	30	28

Processes A, B, and C start at t=0, and process D starts at t=300.

(a) Complete this following diagram, including the time of the X-axis!



- (b) What is the TOTAL TIME of process A?
- (c) What is the TOTAL TIME of process B, if the process runs alone?

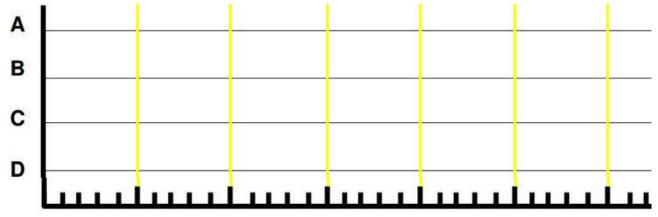
6. **2018-2**

Four (4) processes, A(460), B(540), C(280), D(320); where [X(Y); X = process name; Y = CPU Time] with this following CPU utilization table:

								Multi	iprograi	nming	Combinatio	on (%)			
	A	В	C	D	A+B	A+C	A+D	B+C	B+D	C+D	A+B+C	A+B+D	A+C+D	B+C+D	A+B+C+D
Process A CPU utilization	10	-	-	-	9.3	9.3	9.2	-	-	-	8.3	8.1	7.8	-	7
Process B CPU utilization	-	20	-	-	19	-	-	18	17	-	17	16	-	15	14
Process C CPU utilization	-	-	30	-	-	28	-	26	-	25	25	-	23	22	21
Process D CPU utilization	-	-	-	40	-	-	37	-	35	33	-	32	31	30	28

Processes A, B, and D start at t=0, and process C starts at t=3000.

(a) Complete this following diagram, including the time of the X-axis!



- (b) What is the TOTAL TIME of process A?
- (c) What is the TOTAL TIME of process D, if the process runs alone?

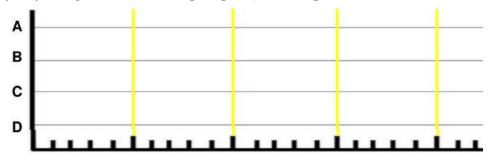
7. 2019-1 (82.8%)

Four (4) processes, A(286), B(360), C(280), D(350); where [X(Y); X = process name; Y = CPU Time] with this following CPU utilization table:

								Multi	prograi	nming	Combinatio	on (%)			
	A	В	C	D	A+B	A+C	A+D	B+C	B+D	C+D	A+B+C	A+B+D	A+C+D	B+C+D	A+B+C+D
Process A CPU utilization	10	-	-	-	9.3	9.3	9.2	-	-	-	8.3	8.1	7.8	-	7
Process B CPU utilization	-	20	-	-	19	-	-	18	17	-	17	16	-	15	14
Process C CPU utilization	-	-	30	-	-	28	-	26	-	25	25	-	23	22	21
Process D CPU utilization	-	-	-	40	-	-	37	-	35	33	-	32	31	30	28

Processes A and C: start at t=0; end before t=4000. Processes B and D: start after t=0; end at t=4000.

(a) (84%) Complete this following diagram, including the time of the X-axis!



- (b) (83%) What is the TOTAL TIME of process A?
- (c) (83%) What is the TOTAL TIME of process B?
- (d) (87%) What is the TOTAL TIME of process C?
- (e) (86%) What is the TOTAL TIME of process D?