

Assignment No. 1

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الواجب عن خوارزميات الجدولة في الوحدة الخامسة

- هذا الواجب عمل جماعي يشارك فيه جميع الطلاب في المجموعة (5) طلاب في المجموعة)، وتتولى المجموعة توزيع المهام بينهم لحل هذا الواجب.
- على المجموعة تحديد Arrival Time و CPU time لكل عملية وعدم افشاء هذه المعلومات للمجموعات الاخرى حتى لا نحصل على نفس الحل. وعليه يتم تنفيذ خوارزميات الجدولة.
- علامة الواجب: عشر علامات.

تقييم الواجب يتم باستخدام مصفوفة التقييم والتسليم (Evaluation and Delivery Rubric) الموضحة في الصفحة الأخيرة.

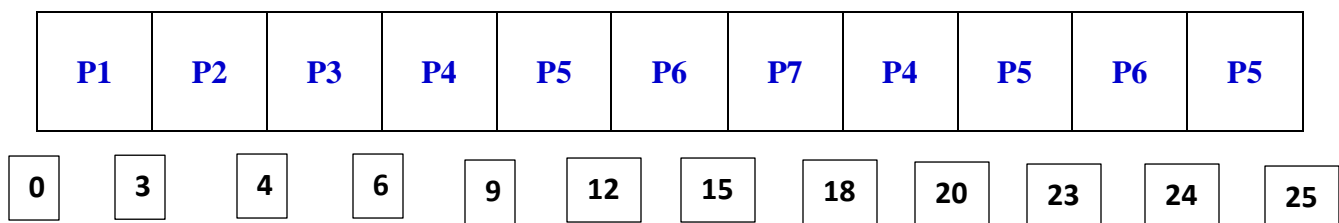
- ملاحظة: الدرجات المكتسبة للمجموعة (اي علامات الطلاب في الواجب) ستكون صفر لجميع الطلاب طلاب المجموعة اذا تبين اقتباس الحل من المجموعات الاخرى في الشعبة.

Q1) Apply Round Robin (RR) Scheduling Algorithm with TQ = 3 on the following system, then solve the following:

- Draw Gantt Chart
- Calculate the waiting time, turnaround time, and response time for each process.
- Calculate the averages of waiting time, turnaround time, and response time for the whole system.
- Calculate the count of context switches.
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Round Robin (RR) Algorithm - TQ = 3							
Process	CPU Time	Arrival Time	Start Time	End Time	Waiting Time	Turnaround Time	Response Time
P1	3	0	0	3	0	3	0
P2	1	2	3	4	1	2	1
P3	2	4	4	6	0	2	0
P4	5	6	6	20	9	14	0
P5	7	8	9	25	10	17	1
P6	4	9	12	24	1	5	3
P7	3	10	15	18	5	8	5
Averages					3.71	7.28	1.42

Gantt Chart



- Count of Context switches =

10

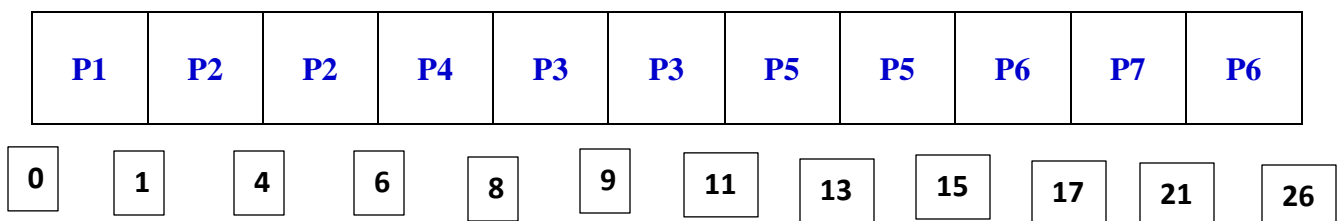
Q2) Apply Shortest Remaining Time First (SRTF) Scheduling Algorithm on the following system, then solve the following:

- Draw Gantt Chart
- Calculate the waiting time, turnaround time, and response time for each process.
- Calculate the averages of waiting time, turnaround time, and response time for the whole system.
- Calculate the count of context switches.

Table 2: dataset 2

Shortest Remaining Time First (SRTF) Algorithm							
Process	CPU Time	Arrival Time	Start Time	End Time	Waiting Time	Turnaround Time	Response Time
P1	1	0	0	1	0	1	0
P2	5	1	1	6	0	5	0
P3	3	4	8	11	4	7	4
P4	2	6	6	8	0	2	0
P5	4	9	11	15	2	6	2
P6	7	13	15	26	6	13	2
P7	4	17	17	21	0	4	0
Averages					1.71	5.42	1.14

Gantt Chart



- Count of Context switches =

10

Evaluation and Delivery Rubric:

Grade out of 10					
Criteria	0	2-3	4	6	Full mark
Evaluation	<ul style="list-style-type: none">Results are not given correctly.Results are copied from a colleague.	<ul style="list-style-type: none">Results contains many incorrect data which cannot reflect the correct answer.	<ul style="list-style-type: none">Results contains equal percentage of correct or incorrect data.	<ul style="list-style-type: none">Results contains few incorrect data.	<ul style="list-style-type: none">Results are completely correct, unique, and charts are perfect.
Delivery	<ul style="list-style-type: none">Only the answers delivered within the deadline (Saturday 19/4/2025) will be graded from 10.Late answers for 48 hours will be graded from 7.All students in the group should submit the same file, so name the file of solution by your academic number.Submit your file in pdf format only via blackboard.				