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## Questions

### Numerical Input

5.0/5.0 points (graded)

In a single core system, a concurrent execution has following scenarios:

There are 10 threads in the system (0 through 9).

- \* Threads have variable time slots.

- \* First even numbered thread (0) has a slot duration of 2 unit time

- \* First odd numbered thread (1) has a slot duration of 5 unit time

- \* The remaining thread's time slots are based on the following rule,

- > The remaining even numbered thread's slot duration is thrice the duration of immediate previous even nummbered thread's slot duration.

- > The remaining odd numbered thread's slot duration is twice the duration of immediate previous odd nummbered thread's slot duration.

For example, if thread number 1's slot duration is  $T_1$  then thread number 3's slot duration will be  $2T_1$  and so on.

Now, if each of the threads gets 3 rounds to complete the execution, **Calculate and Insert** the total execution time in the following. (*Note: Insert only integer number of total execution time. For example, if your ansewr is 5.8 or 5.1, insert 5 only.* )

1191



1191

Next, If the executing program needs 552 unit time to execute and all the threads are used sequentially(threads 0,1,2,...,9 will be assigned, then again thread 0,1,2... will be assigned), then in following **select** which threads will not be used second time?

☐ thread 0

☐ thread 1

☐ thread 2

☐ thread 3

☐ thread 4

☐ thread 5

☐ thread 6

☐ thread 7

☒ thread 8

☒ thread 9



## Question 2

4.0/5.0 points (graded)

Marks for this question: 5 marks inputs + 2 marks gantt chart

Consider the information of following five processes -

Process	Arrival time	Burst time
P1	0	3
P2	1	3
P3	7	9
P4	5	8
P5	9	4

Now apply the **Preemptive Shortest Remaining Time First (SRTF)** scheduling algorithm on the above given data.

Insert the **Execution Starting Time of Process P2** (only integer value, no decimal points. For example if your ans is 25.8 or 25.1 , insert 25 only)

✓ Answer: 3

Insert the **Execution Ending Time of Process P5** (only integer value, no decimal points. For example if your ans is 25.8 or 25.1 , insert 25 only)

✓ Answer: 13

Insert the **Response Time of Process P3** (only integer value, no decimal points. For example if your ans is 25.8 or 25.1 , insert 25 only)

11

✓ Answer: 11

Insert the **Average Waiting Time** (only integer value, no decimal points. For example if your ans is 25.8 or 25.1, insert 25 only)

3

✓ Answer: 3

Insert the **Number of context switches** for execution of all the processes. (only integer value, no decimal points. For example if your ans is 25.8 or 25.1, insert 25 only)

2

✗ Answer: 5

Submit

You have used 1 of 2 attempts

**i** Answers are displayed within the problem

### Instructions

1. Please copy the form link before the 30 minutes timer is ended. Here is the link - <https://forms.gle/mZCsXQ8hWPDuTk1h8>
2. You will submit your rough work in the form. The form accepts **only pdf file**. The maximum file **size is 10 mb**. Make sure your file format and size is appropriate.
3. **Make sure you enter all your answers in box first**. Only after submitting answers in box, take images of your rough work and upload in the form. Submitting rough work is **mandatory**.
4. You have to upload your work within 15 minutes, after submitting exam in box. Your box submission time and google form submission time will be

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