Assignment for Week 1

The due date for submitting this assignment has passed. Due on 2018-02-21, 23:59 IST.

Submitted assignment

1) To calculate the output of the expression "3 * 5 * (5 + 6)", which one is the following an invalid sequence of operations.

- t1 = 3 * 5; t3 = t1 * t2; t2 = 5 + 6
- t1 = 3 * 5; t2 = 5 + 6; t3 = t1 * t2
- t2 = 5 + 6; t1 = 3 * 5; t3 = t1 * t2

\[ 1 \text{ point} \]
1) You are given sufficient number of resources where all operations except node 0 and 12 take 1 time step (node 0 and 12 takes 0 time step). Find minimum number of time steps required to schedule the sequence graph shown in figure-1?

- None of above.
- 2
- 4
- 3
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:
$t_1 = 3 \times 5; t_3 = t_1 \times t_2; t_2 = 5 + 6$

2) You are given sufficient number of resources where all operations except node 0 and 12 take 1 time step (node 0 and 12 takes 0 time step). Find minimum number of time steps required to schedule the sequence graph shown in figure-1?

- 2
- 4
- 3
- 5

No, the answer is incorrect.
Score: 0
Accepted Answers:

3) You are given 2 Multipliers, 1 Adder / Subtraction unit and 1 Comparator. What will be the minimum number of time steps required for the graph in figure-1, where assumptions are same as question 2.

- 4
- 5
- 6
- 7

No, the answer is incorrect.
Score: 0
Accepted Answers:

4) What will be the ASAP schedule time step of nodes 1, 7 and 9 of figure-1 each operation takes 1 time step to execute.

- 1, 3, 3
- 1, 3, 2
- 1, 3, 4
- 1, 4, 3

No, the answer is incorrect.
Score: 0
Accepted Answers:

5) What will be the ALAP time of nodes 1, 7 and 9 with given latency bound is 5 and each operation takes 1 time step to execute.

- 2, 4, 4
- 2, 3, 4
- 2, 4, 5
- None of above

No, the answer is incorrect.
Score: 0
Accepted Answers:

6) What will be mobility of node 1, 7 and 9 considering the ASAP and ALAP scheduling of questions 4 and 5?

- 1, 1, 3
7) Suppose, multiplication operation takes 2 time steps and all other operation takes 1 time step. Also, there is not resource bound. What will be minimum latency of the graph in figure-1?

- 3
- 4
- 5
- 6

No, the answer is incorrect.
Score: 0
Accepted Answers:
6

8) Consider the Integer Linear Programming (ILP) formulation of Minimum-Latency Scheduling under Resource Constraints (ML-RC). Which of the following constraints must be satisfied in ML-RC formulation.

S1: Start time of each operation must be unique
S2: Precedence relationships must be satisfied
S3: Resource constraints must be met

- S1, S2
- S1, S3
- S2, S3
- S1, S2, S3

No, the answer is incorrect.
Score: 0
Accepted Answers:
S1, S2, S3

9) Which of the following statements are true about allocation and binding phase of high-level synthesis?

S1: Same adder can be used to execute two addition operations if these two addition operations are scheduled in the same time step.
S2: Same adder can be used to execute two addition operations if these two addition operations are scheduled in different time step.

- S1
- S2
- S1 and S2
- None

No, the answer is incorrect.
Score: 0
Accepted Answers:
S2