Week 2: Assignment 2
The due date for submitting the assignment is passed.

Due on 2021-06-16, 23:59 IST.

1) Consider the sequence graph in Figure 2. Fix all the necessary decisions variables of type X_0 which denotes the assignment of operations.

2) The sequence graph in Figure 2 has 8 operation, the first step X_0 is the initial operation at step 1, otherwise X_0 is 0. The sequence X_0 is said to be a cycle. Answer the following questions from 1 to 4:

a) Determine the correct inequality representing the unique start time constraint of operation 5.

b) Determine the correct inequality representing the unique resource constraint at time step 1.

c) Determine the correct inequality representing the dependency constraint between operations 3 and 5, while each operation 1, 2, 3, 4, 5 takes one cycle.

2 marks

3) Consider the above figure again. In which states the operation 6 will be scheduled by ASAP and AALAP algorithms? (Assume that the dependency tree of operation 6 is given below):

a) ASAP and AALAP 1
b) ASAP 1 and AALAP 5
c) ASAP 1, AALAP 4

d) ASAP 1, AALAP 4

4 marks

4) Which of the following is the best match for the ASAP and AALAP algorithms: 1. Slack and Buffer 2. Slack and Buffer 3. Slack and Buffer 4. Slack and Buffer

3 points

5) Which of the following is not a feasible solution?

a) Scheduling a job to a non-selected processor
b) Determine start time of each operation and selecting all the operations to different processors

c) Sequence of operations

d) Number of cycles to execute the entire schedule

3 points

6) Which is the correct choice for a feasible solution?

a) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)
b) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)
c) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)
d) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)

3 points

7) Which of the following is the correct choice for a feasible solution?

a) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)
b) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)
c) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)
d) (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u)

4 points