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NPTEL

reviewer2@nptel.iitm.ac.in ▼

Courses » Programming, Data structures and Algorithms using C

Announcements Course Ask a Question Progress

# Unit 8 - Week 7: Greedy Algorithms and Dynamic Programming



## Course outline

### Assignment0

#### Week 1: Basic Programming Constructs

#### Week 2: Arrays, Pointers and Strings

#### Week 3: Functions, Time complexity

#### Week 4: Sorting and Searching Algorithms

#### Week 5: Structures, Dynamic Memory Allocation and ADTs

#### Week 6: Stacks, Queues, Heaps, Trees and Graphs

#### Week 7: Greedy Algorithms and Dynamic Programming

- Greedy Algorithms
- Dynamic Programming
- Matrix Chain Multiplication
- Quiz : Quiz 7
- Programming Assignment 7.1: Activity Selection

## Quiz 7

The due date for submitting this assignment has passed. **Due on 2018-03-28, 23:59 IST.** As per our records you have not submitted this assignment.

1) Consider the following matrices: 1 point

A: 3 x 2

B: 2 x 5

C: 5 x 4

D: 4 x 10

Total number of scalar multiplications needed if the matrices are multiplied in the optimal way is:

- 80
- 180
- 280
- 380

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

180

2) Optimal paranthesization for the above question is 1 point

- (A(B(CD)))
- ((A(BC))D)
- (A((BC)D))
- ((AB)(CD))

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

(A((BC)D))

3) Suppose a country has coins for denominations {1,3,7,10}. For making a change using minimum number of coins for a total amount of 14, what is the solution provided by greedy strategy? 1 point

- 1
- 2
- 3
- 4

- Programming Assignment 7.2: Coin Changing
- Programming Assignment 7.3: Longest Increasing Subsequences
- Programming Assignment 7.4: Bob and his videos
- Week 7 - Feedback
- Quiz 7 Solutions

### Week 8 : Hash Tables & Graph Algorithms

### Week 9 : Graph Traversal, Articulation Points, File I/O, Modular programming

### Help and FAQ

### Interactive session with students

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

3

4) For the above question what is the optimal solution? 1 point

- 1
- 2
- 3
- 4

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

2

5) Which of the following strategy provides best solution to Change making problem? 1 point

- Divide and Conquer
- Greedy Strategy
- Dynamic Programming
- None of the above

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Dynamic Programming*

6) Consider the below directed graph: 1 point

What is the length of the shortest path from S-T if we apply the greedy strategy at each intermediate level from source S?

- 19
- 37
- 65
- 70

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

65

7) What is the optimal value for the above question? 1 point

- 9
- 19
- 29
- 39

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

19

8) Which of the following strategy provides best solution to compute the shortest path between any given pair of nodes in a multistage graph? 1 point

- Divide and Conquer
- Greedy strategy
- Dynamic Programming
- None of the above



**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Dynamic Programming*

9) Say you are given 5 jobs as follows:

1 point

J1 requires 5 time units

J2 requires 2 time units

J3 requires 7 time units

J4 requires 1 time units

J5 requires 10 time units

What is the average completion time if the jobs are scheduled in the increasing order of their ID's?

11.2

13.2

15.2

17.2



**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

13.2

10) What is the average completion time if we make a greedy choice at each step by picking the pending job which requires least time for completion?

1 point

9.4

10.4

11.4

12.4

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

10.4

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