

Fundamentals of Algorithms
CS502-Fall 2011
ASSIGNMENT #5

Deadline

Your assignment must be uploaded/submitted at or before **25th January 2012**

Uploading instructions

Please view the **assignment submission process** document provided to you by the Virtual University to upload the assignment.

Rules for Marking

It should be clear that your assignment will not get any credit if:

- The assignment is submitted after due date.
- The submitted assignment does not compile or run.
- The assignment is copied.**

Objectives

This assignment will help you to understand the concepts of Knapsack Problem and Chain matrix Multiplication which results in efficient calculation time wise.

Guidelines

1. In order to attempt this assignment you should have full command on Lecture # 39 to Lecture # 45
2. In order to solve this assignment you have strong concepts about following topics
 - ✓ Polynomial Time Algorithms
 - ✓ Non deterministic Polynomial time Algorithms

Recommended book for solving assignment

Cormen, Leiserson, Rivest, and Stein (CLRS) 2001, **Introduction to Algorithms**, (2nd ed.) McGraw Hill.

Estimated Time 3 hours

You can make justified search for the topic in One hour and 1.5 hour to understand the whole themes you are asked and 0.5 hour to organize and type whole material.

Question# 1 (5)

Illustrate precisely what you have learned from the course of Fundamentals of Algorithms (CS-502); your level of analytical skills has been accelerated up-to which extent ?

Question# 2 (10)

Illustrate the concept of Complexity theory in terms of Polynomial and Non-deterministic polynomial time algorithms. Comparison based answer; along with examples of problem domains of both types; is required.