**ASSIGNMENT 10 – Greedy approach**

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| Topics |
| * Greedy algorithms |
| Readings |
| * CLRS, Chapter 16.1 |
| Instructions | |
| 1. Select a **partner** and inform instructor who you will work with  2. Do the problems and answer the questions listed in the next section   * Keep in mind Guidelines on plagiarism.   3. Follow instructions for submitting your work.  PROBLEMS AND QUESTIONS | |
| Problems and Questions |
| Part A Change-making (45 pts) |
| Implement a greedy algorithm for the change-making problem.  For a demo, solve it with two sets of coin denominations: {1, 2, 5, 10, 20 }  and {1, 10, 25, 50}.  Compare you results with the algorithm based on dynamic programming.  Use the amounts for change: 26, 32, 48, 70 and others by your choice.  You may ask user to enter the amount. |

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| Part B Activities scheduling ( 55 pts) |
| Implement the iterative algorithm for activity scheduling. Assume the activities are recorded as intervals (with start and finish time). Make sure to properly sort them. For the demo program use the activity list from the following table:   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | Start | 0 | 3 | 1 | 3 | 2 | 5 | 5 | 6 | 7.2 | 8 | 12 | | Finish | 5.5 | 5 | 4.6 | 9 | 14 | 7.3 | 9 | 10 | 11 | 12 | 16 |   See the sample Java files. Comments there should help you. |

2. **Summary questions:**

a. What concepts did you have trouble with? What still confuses you?

b. Suggestions for improving this assignment in the future?

Help instructor help you

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| Submitting your work |

1. Make sure that your name(s) are in all your files.
2. If you have more than one file for your solution, make a .zip file for your project
3. In Blackboard, attach your solution file to the submission for this assignment.

GUIDELINES ON

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| Guidelines on Plagiarism in Computer Science |

Outlined in the Syllabus