Class Test 02(A): CSI 207- Algorithms, Fall 2019
Total Marks: 20, Time: 25 minutes

Name: ID:

UAP CSE dept has decided to send you to visit some schools and colleges of Dhaka city and invite the principles and the students to join the "Hardware and Software Carnival 2020". The principles of different schools/colleges have given you the following time for meeting. Your goal is to invite as many schools/colleges as possible and find out which schools/colleges you will visit to invite. Which classic problem this scenario maps to? Write down the algorithm and simulate the result with following data.

	NDC	DRM	VNSC	BNMPC	BMARPC	Govt. Lab	SSC	ML	Moh. Prep	HCSC
Start time	8:00	8:30	9:00	9:30	10:00	10:00	11:30	11:30	11:30	12:00
End time	9:00	9:00	10:00	11:00	11:00	11:30	12:00	12:30	1:30	1:00

Name: ID:

You are playing **PubG** and you get injured. You need **n** unit energy to get heal. There are **m** different types of energy meds of e_1, e_2, … e_m units. You are a lazy player and decided to fill up your energy with minimum numbers of meds. Which classic problem this scenario maps to? Propose a DP algorithm to solve this problem and simulate the result for following data.

  n = 16 units.
  Available energy meds = 10, 8, 4, 2 units

Name: ID:

You are travelling to USA for higher studies and most probably you won't be able to visit your country before completing your degree. So, you are packing your important stuffs in your luggage. All airlines have a limit of 50 lb luggage during your travel i.e. you can't take more than 50 lbs. So, you have to pack carefully so that the luggage weight doesn't exceed 50 lb. What algorithm (classic problem) will you use to decide what to take in the luggage and what not? Write the algorithm and simulate the result.

Item	Book	Cloth	Laptop	Other
Item weight	20	15	10	25
Importance scale	60	30	100	30