GREEN UNIVERSITY OF BANGLADESH

Department of Computer Science & Engineering

CT-03

Course Code: CSE-205

Course Title: Algorithms

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Submitted to:
Name : Jargis Ahmed
Designation : Lecture
Dept : CSE
Green University Of Bangladesh

Submitted by:
Name : Jakirul Islam
ID : 193002101
Section : 193(DC)
Dept. : CSE

Remark

Ans to the Q:NO:7

we know;

$$P(i,w) = \max\{v_i + P(i-1, w-w_i),\ P(i-1, w)\}$$

item(i)	weight(w)	value(v)
1	2	24
2	3	27
3	4	36
4	1	15
5	2	9(x)
6	5	13(y)

My id = 19300210|

x = (19300210 % 20) = 10 = 9

x = 9

y = 13

	0	1	2	3	4	5	6	7
0	0	0	0	0	0	0	0	0
1	0	0	24	24	24	24	24	24
2	0	0	24	27	27	51	51	51
3	0	0	24	27	36	51	60	63
4	0	15	24	39	42	51	66	75
5	0	15	24	39	42	51	66	75
6	0	15	24	39	42	51	66	75
7								

now,

item 1 2 3 4 5 6

1 1 0 0 1 0

know,

$\therefore 75 - 24 = 51$

$51 - 27 = 24$

$24 - 24 = 0$

So, the maximum profit is (item 1 value + item 2 value + item 5 value)

∴ the maximum profit = (24 + 27 + 24)

= 75

Ans.

Ans to the Q.NO: 2

Given that,

$X = A\ B\ B\ A\ D\ B\ C\ A$

$X = B\ \#\ C\ A\ B\ A$

My ID: 193002101

$193002101 \% 5 = 1$

$\# = A + \text{my id} \% 5$
$= A + 193002101 \% 5$
$= A + 1$

$= 65 + 1$
$= 66$
$= B$

So,

$Y = B\ B\ C\ A\ B\ A$

X ↓ / Y →		1	2	3	4	5	6
	0	B	B	C	A	B	A
0	0	0	0	0	0	0	0
1 A	0	0	0	0	↖ 1	← 1	↖ 1
2 B	0	↖ 1	↖ 1	← 1	↑ 1	↖ 2	← 2
3 B	0	↖ 1	↖ 2	← 2	← 2	↖ 2	↑ 2
4 A	0	↑ 1	↑ 2	↑ 2	↖ 3	← 3	↖ 3
5 D	0	↑ 1	↑ 2	↑ 2	↑ 3	↑ 3	↑ 3
6 B	0	↖ 1	↖ 2	↑ ← 2	↑ 3	↖ 4	← 4
7 C	0	↑ 1	↑ 2	↖ 3	↑ ← 3	↑ 4	↑ 4
8 A	0	↑ 1	↑ 2	↑ 3	↖ 4	↑ ← 4	↑ ↖ 5

So, the longest common subsequence

B B A B A