NAME: HANZALA ALI

ID: 13467

FACULTY: JAVERIA BARKAT

DEPARTMENT: BS-CS

Date _____ 20__

(1)

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ASSIGNMENT # 2.

Q.1) Multiplier = 11001 = Q
Multiplicand = 10011 = M

SOLVE #

	A	Q	Q-1	M		
	00000	11001	0	10011	n = 5	
1st Step	01101	11001	0	10011	A = A - M	01101 − 10011
	00110	11100	1	10011	n = 4	
2nd Step	11001	11100	1	10011	A = A + M	11001 + 10011
	11100	11110	0	10011	n = 3	
3rd step	11110	01111	0	10011	n = 2	
4rth Step	01011	01111	0	10011	A = A - M	01011 − 10011
	00101	10111	1	10011	n = 1	
5th step	00010	11011	1	10011	n = 0	

(2) Date 20

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QUESTION # 2.

SOLVE #

First,

Evaluate the total size of Memory.

* Total Size of Memory: 2^{32}

$\Rightarrow 4294967296$

Total Size of Memory $\Rightarrow$ 4 GB

* Total Size of Each Segment => 24

* Total Segment = $\frac{2^{32}}{24}$ = 178, 956, 970

$\Rightarrow$ 178 M

Now,

Evaluate Physical Register.

* To Find Physical Address.

→ CS : IP
→ ES : SI
→ DS ; DI
→ ES ; DI
→ DS : SI.

(3) Date ____ 20 ____

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1) Cs = 9876540o , IP = 112387
Logical Address = 32 bit memory

```
Cs        9 8 7 6 5 4 0 0
IP   +      1 1 2 3 8 7
          9 8 8 7 7 7 8 7   (Physical Address)
```

2) ES = ABC45600 , SI = 123451
Logical Address = 32 bit memory

```
  A B C 4 5 6 0 0
      1 2 3 4 5 1
  A B D 8 B A 5 1   (Physical Address).
```

3) DS : DI
DS = DEF23400 DI = 234DCB
Logical Address = 32 bit memory

```
    2     2
  D E F 2 3 4 0 0
      2 3 4 D C B
  D F 1 5 8 1 C B
```

(4) Date ____ 20__

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4) ES = ABC45600 , DI = 234DCB
Logical Address = 32 bit

```
A B C 4 5 6 0 0
    2 3 4 D C B
-----------------
A B E 7 A 3 C B   (Physical Address)
```

5) DS = DEF23400 , SI = 123451.
Logical Address = 32 bit

```
D E F 2 3 4 0 0
    1 2 3 4 5 1
-----------------
D F 0 4 6 8 5 1   (Physical Address)
```