NUST College of Electrical and Mechanical

Engineering

Assignment No. 02

Submitted by:

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Submitted to:

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Degree-36

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Syndicate: A

a) Question No. 1:

```
# in1 =    0 , in2 =    0 , in3 =    0 , in4 =    0 , out1 =    0 , out2 =    0
# in1 =   10 , in2 =   20 , in3 =   12 , in4 =    5 , out1 =   47 , out2 =    0
# in1 =   20 , in2 =   30 , in3 =  112 , in4 =   50 , out1 =  212 , out2 =   16
# in1 =   55 , in2 =   55 , in3 =   55 , in4 =   55 , out1 =  220 , out2 =   55
# in1 =   20 , in2 =   21 , in3 =   90 , in4 =   54 , out1 =  185 , out2 =   16
```

b) Question No. 2:

```
# Input =  0 , Output =    0
# Input =  1 , Output =    0
# Input =  2 , Output =    1
# Input =  3 , Output =    5
# Input =  4 , Output =   15
# Input =  5 , Output =   35
# Input =  6 , Output =   70
# Input =  7 , Output =  126
# Input =  8 , Output =  210
```

c) Question No. 3:

```
# a =    0 , b =    0 , c =    0 , d =    0 , out =        0
# a =   10 , b =   20 , c =   12 , d =    5 , out =      260
# a =   20 , b =   30 , c =  112 , d =   50 , out =     6460
# a =   55 , b =   55 , c =   55 , d =   55 , out =    12510
# a =   20 , b =   21 , c =   90 , d =   54 , out =    17790
# a =   20 , b =   21 , c =   90 , d =   54 , out =    23070
# a =   20 , b =   21 , c =   90 , d =   54 , out =    28350
# a =   20 , b =   21 , c =   90 , d =   54 , out =    33630
# a =   20 , b =   21 , c =   90 , d =   54 , out =    38910
# a =   20 , b =   21 , c =   90 , d =   54 , out =    44190
# a =   20 , b =   21 , c =   90 , d =   54 , out =    49470
```

d) Question No. 4:

```
# a = 0000, b = 0000, acc = 00000000000000000000
# a = 1011, b = 1010, acc = 00000000000000000000
# a = 0010, b = 0111, acc = 00000000000000000000
# a = 0110, b = 0001, acc = 00000000000000000000
# a = 0110, b = 0001, acc = 11111111111111111011
# a = 0110, b = 1010, acc = 11111111111111111011
# a = 0110, b = 1010, acc = 00000000000000000010
# a = 0110, b = 1010, acc = 00000000000000001000
# a = 0110, b = 1010, acc = 00000000000000001110
# a = 0110, b = 1010, acc = 00000000000000010100
# a = 0110, b = 1010, acc = 00000000000000011010
# a = 0110, b = 1010, acc = 00000000000000100000
```

e) Question No. 5:

```
# a =    5 , b =    3 , out =    0
# a =    5 , b =    5 , out =    2
# a =    5 , b =    7 , out =    4
# a =    5 , b =    9 , out =  12
# a =    5 , b =  11 , out =  14
# a =    5 , b =  13 , out =    8
# a =    8 , b =  15 , out =  15
# a =    8 , b =    1 , out =  15
# a =    8 , b =    3 , out =  13
# a =    8 , b =    5 , out =  11
```