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**Assignment 1**

**1-Convert decimal to binary**

1. 5

**Sol**

101

1\*1=1

2\*0=0

4\*1=4 ( 1+4=5)

1. 31

**Sol**

11111

1\*1=1 , 2\*1=2 , 4\*1 =4 , 8\*1=8 , 16\*1=16

(16+8+4+2+1=31)

3)112

**Sol**

1110000

1\*0=0 , 2\*0=0, 4\*0 =0 , 8\*0=0 , 16\*1=16 ,32\*1=32 , 64\*1=64

(64+32+16+0+0+0+0=112)

4)255

**Sol**

11111111

1\*1=1 , 2\*1=2, 4\*1 =4 , 8\*1=8 , 16\*1=16 ,32\*1=32 , 64\*1=64 ,128\*1=128

(128+64+32+16+8+4+2+1=255)

2- convert binary to decimal

1. 11110001

**Sol**

**241**

1\*1=1 , 2\*0=0, 4\*0 =0 , 8\*0=0 , 16\*1=16 ,32\*1=32 , 64\*1=64 ,128\*1=128

(128+64+32+16+0+0+0+1=255)

1. 11001010

**SOL**

**202**

1\*0=0 , 2\*1=2, 4\*0 =0 , 8\*1=8 , 16\*0=0 ,32\*0=0 , 64\*1=64 ,128\*1=128

(128+64+0+0+8+0+2+0=202)

1. 11111111

**SOL**

**255**

1\*1=1 , 2\*1=2, 4\*1 =4 , 8\*1=8 , 16\*1=16 ,32\*1=32 , 64\*1=64 ,128\*1=128

(128+64+32+16+8+4+2+1=255)

**4)11100**

**SOL**

**28**

1\*0=0 , 2\*1=0, 4\*1 =4 , 8\*1=8 , 16\*1=16

16+8+4=28

3-Convert this text to binary

From ( ASCII)

1. Hello

**Sol**

H : 1001000

e : 1100101

l: 1101100

l: 1101100

o: 1101111

1001000 1100101 1101100 1101100 1101111

1. Python

**SOL**

P: 1010000

y: 1111001

t: 1110100

h: 1101000

o: 1101111

n: 1101110

1010000 1111001 1110100 1101000 1101111 1101110

4-convert this binary to text

From (Ascii)

1 ) 01011001 01101111 1110101

**SOL**

01011001 01101111 1110101

01011001 : Y

01101111 : o

1110101 : u

You

1. 01000100 01101001 1100100

01000100: D

01101001: i

1100100 : d

Did

1. 01000111 01101111 01101111 1100100

01000111 : G

01101111 :o

01101111 : o

1100100 : d

Good

1. 01001010 01101111 1100010

01001010 : J

01101111 : o

1100010 : b

Job