بسم الله الرحمن الرحيم

1-Conver Decimal numbers to binary

a.5

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 0 0 0 0 **1** 0  **1.**

**1\*4=4.**

**1\*1=1.**

**5**

**5 = 00000101.**

b.31

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 0 0 **1** **1** **1** **1**  **1.**

**1\*16=16.**

**1\*8=8.**

**1\*4=4.**

**1\*2=2.**

**1\*1=1.**

**31**

**31 = 00011111.**

c.112

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 **1** **1** **1** 0 0 0 0**.**

**1\*64=64.**

**1\*32=32.**

**1\*16=16.**

**112**

**112 = 01110000.**

d.255

**"Answer":**

**128 64 32 16 8 4 2 1.**

**1** **1** **1** **1** **1** **1** **1**  **1.**

**1\*128=128.**

**1\*64=64.**

**1\*32=32.**

**1\*16=16.**

**1\*8=8.**

**1\*4=4.**

**1\*2=2.**

**1\*1=1.**

**255**

**255 = 11111111.**

2-convert Binary numbers to Decimal

11110001

**"Answer":**

**128 64 32 16 8 4 2 1.**

**1** **1** **1** **1** 0 0 0 1.

**1\*128=128.**

**1\*64=64.**

**1\*32=32.**

**1\*16=16.**

**1\*1=1.**

**241.**

**11110001 = 241.**

11001010

**"Answer":**

**128 64 32 16 8 4 2 1.**

**1** **1** 0 0 **1** 0 **1** 0.

**1\*128=128.**

**1\*64=64.**

**1\*8=8.**

**1\*2=2.**

**202.**

**11001010 = 202.**

11111111

**"Answer":**

**128 64 32 16 8 4 2 1.**

**1** **1** **1** **1** **1** **1** **1** **1**.

**1\*128=128.**

**1\*64=64.**

**1\*32=32.**

**1\*16=16.**

**1\*8=8.**

**1\*4=4.**

**1\*2=2.**

**1\*1=1.**

**255.**

**11111111 = 255.**

00011100

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 0 0 **1** **1** **1** 0 0.

**1\*16=16.**

**1\*8=8.**

**1\*4=4.**

**28.**

**00011100 = 28.**

3-Convert this text to binary

**We look at the letters in the ascii table, and then convert from decimal to binary.**

-Hello

**"Answer":**

**-** = **44**.

**H** = **72**.

**e** = **101**.

**l** = **108**.

**l** = **108**.

**O** = **111**.

**128 64 32 16 8 4 2 1.**

0 0 **1** 0 **1** **1** 0 0.

**-** = **44**= **00101100.**

**128 64 32 16 8 4 2 1.**

0 **1** 0 0 **1** 0 0 0.

**H** = **72 = 01001000.**

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 0 **1** 0 **1**.

**e** = **101** = **01100101**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** 0 0.

**l** = **108** = **01101100**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** 0 0.

**l** = **108** = **01101100**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** **1** **1**.

**o** = **111** = **01101111**.

**-Hello** = **00101100**,**01001000**,**01100101**,**01101100**,**01101100,01101111**.

-Python

**"Answer":**

**-** = **44**.

**P** = **80**.

**y** = **121**.

**t** = **116**.

**h** = **104**.

**O** = **111**.

n = **110**.

**128 64 32 16 8 4 2 1.**

0 0 **1** 0 **1** **1** 0 0.

**-** = **44**= **00101100.**

**128 64 32 16 8 4 2 1.**

0 **1** 0 **1** 0 0 0 0.

**P** = **80**= **01010000.**

**128 64 32 16 8 4 2 1.**

0 **1** **1** **1** **1** 0 0 **1**.

**y** = **121**= **01111001.**

**128 64 32 16 8 4 2 1.**

0 **1** **1** **1** 0 **1** 0 0.

**t** = **116**= **01110100.**

**128 64 32 16 8 4 2 1.**

0 **1** **1** **1** 0 **1** 0 0.

**h** = **104**= **01100100.**

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** **1** **1**.

**o** = **111** = **01101111**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** **1** 0.

**n** = **110** = **01101110**.

**-Python** = **00101100**,**01010000**,**01111001**,**01110100**,**01100100,01101111,01101110**.

4-convert this binary to text

01011001 01101111 1110101

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 **1** 0 **1** **1** 0 0 **1**.

**89** = **Y**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** **0** **1** **1** **1** **1**.

**111** = **o**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** **1** 0 **1** 0 **1**.

**117** = **u**.

01011001 01101111 1110101 = **You**.

01000100 01101001 1100100

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 **1** 0 0 0 **1** 0 0.

**68** = **D**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** 0 0 **1**.

**105** = **i**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 0 **1** 0 **0**.

**100** = **d**.

01000100 01101001 1100100 = **Did**.

01000111 01101111 1101111 1100100

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 **1** 0 0 0 **1** **1** **1.**

**71** = **G**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** **1** **1.**

**111** = **o**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** **1** **1.**

**111** = **o**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 0 **1** 0 0.

**100** = **d**.

01000111 01101111 1101111 1100100 = **Good**.

1001010 01101111 1100010

**"Answer":**

**128 64 32 16 8 4 2 1.**

0 **1** 0 0 **1** 0 **1** 0**.**

**74** = **J**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 **1** **1** **1** **1.**

**111** = **o**.

**128 64 32 16 8 4 2 1.**

0 **1** **1** 0 0 0 **1** 0**.**

**98** = **b**.

1001010 01101111 1100010 = **Job**.

You Did good Job.