Binary Assignment

Convert From Decimal To Binary

“321”

321 = 256 + 64 + 1

There’s:

one(1)
zero(2)
zero(4)
zero(8)
zero(16)
zero(32)
one(64)
zero(128)
one(256)

Return: 10000101

//

“1,342”

1,342 = 1,024 + 32 + 16 + 8 + 4 + 2

There’s:

zero(1)
one(2)

one(4)
one(8)
one(16)
one(32)
zero(64)
zero(128)
zero(256)
zero(512)
one(1,024)

Return: 01111100001

//

“663,241”

663,241 = 524,288 + 131,072 + 4,096 + 2,048 + 1,024 + 512 + 256 + 128 + 64 + 8 + 1

There’s :

One(1)
Zero(2)
Zero(4)
One(8)
Zero(16)
Zero(32)
One(64)
One(128)
One(256)
One(512)
One(1,024)
One(2,048)
one(4,096)
Zero(8,192)
Zero(16,384)
Zero(32,768)
zero(65,536)

One(131,072)
zero(262,144)
one(524,288)

Return: 10010011111110000101

//

Convert From Decimal To Octal

“321”

321 / 8 = 40 remainder (1)
40 / 8 = (5) remainder (0)

Return: “501”

//

“1342”

1342 / 8 = 167.75 // .75 * 8 = (6)
167 / 8 = 20.875 // .875 * 8 = (7)
20 / 8 = (2).5 // .5 * 8 = (4)

Return: “2,476”

//

“663,241”

663241 / 8 = 82905.125 // .125 * 8 = (1)
82905 / 8 = 10363.125 // .125 * 8 = (1)
10363 / 8 = 1295.375 // .375 * 8 = (3)
1295 / 8 = 161.875 // .875 * 8 = (7)
161 / 8 = 20.125 // .125 * 8 = (1)
20 / 8 = (2).5 // .5 * 8 = (4)

Return: “2,417,311”

//

Convert From Decimal To Hex

“321”

321 / 16 = 20 remainder (1)
20 / 16 = 1 remainder (4)
1 / 16 = 0 remainder (1)

Return: 141

//

“1342”

1342 / 16 = 83 remainder (14)
83 / 16 = 5 remainder (3)
(5) is what remains

Return: 53E

//

“663241”

663241 / 16 = 41452 remainder (9)
41452 / 16 = 2590 remainder 12(C)
2590 / 16 = 161 remainder 14(E)
161 / 16 = 10 remainder (1)
10(A) is what remains

Return: “A1EC9”

//

“Hex To Binary”

“14A31”

Using “8421” as a key.

(1) = 0001 // (4) = 0100 // (A) = 1010 // (3) = 0011 // (1) = 0001

Return:

00010100101000110001

//

“FFFF”

Return:

(FFFF) = 1111111111111111

//

“Hex To Decimal”

“14A31”

Being base 16, you multiply every hex value from left to right n*16^16, starting at 1.

1 * 1 = 1
3 * 16 = 48
10 * 256 = 2560
4 * 4096 = 16384
1 * 65536 = 65536

Return: 84,529

//

“FFFF”

15 * 1 = 15
15 * 16 = 240
15 * 256 = 3,840
15 * 4,096 = 61,440

Return: 65,535