

Name : Ahmed Sayed Abd ElFattah

1-Conver Decimal numbers to binary

Decimal	Binary
	<u>Answer</u>
1 – 5	1- $\begin{array}{cccc} 2^2 & 2^1 & 2^0 & \\ 4 & 2 & 1 & \end{array} \quad (101)$
2 – 31	2- $\begin{array}{ccccc} 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ 16 & 8 & 4 & 2 & 1 \end{array} \quad (11111)$
3 – 112	3- $\begin{array}{ccccccc} 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} \quad (1110000)$
4 – 255	4- $\begin{array}{cccccccc} 2^7 & 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} \quad (10011011)$

2-convert Binary bumbers to Decimal

Binary	Decimal
	بستخدم النظام الثنائي :-
	$\begin{array}{ccccccc} 2^7 & 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array}$
	<u>Answer</u>
1- 1 1 1 1 1 0 0 0 1	1- $\begin{array}{ccccccc} 1 & 1 & 1 & 1 & 0 & 0 & 0 & 1 \\ 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} = 237$
2- 1 1 0 0 1 0 1 0	2- $\begin{array}{ccccccc} 1 & 1 & 0 & 0 & 1 & 0 & 1 & 0 \\ 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} = 202$
3- 1 1 1 1 1 1 1 1	3- $\begin{array}{ccccccc} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} = 255$
4- 0 0 0 1 1 1 0 0	4- $\begin{array}{ccccccc} 0 & 0 & 0 & 1 & 1 & 1 & 0 & 0 \\ 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} = 28$

3-Convert this text to binary

2- Python			1- Hello		
Letter	Dec	Binary	Letter	Dec	Binary
		64 32 16 8 4 2 1			64 32 16 8 4 2 1
P	80	1 0 1 0 0 0 0	H	72	1 0 0 1 0 0 0
y	121	1 1 1 1 0 0 1	e	101	1 1 0 0 1 0 1
t	116	1 1 1 0 1 0 0	l	108	1 1 0 1 1 0 0
h	104	1 1 0 1 0 0 0	l	108	1 1 0 1 1 0 0
o	111	1 1 0 1 1 1 1	o	111	1 1 0 1 1 1 1
n	110	1 1 0 1 1 1 0			

4-convert this binary to text

1- 01011001- 01101111-1110101			2- 01000100-01101001-1100100		
Letter	Dec	Binary	Letter	Dec	Binary
		64 32 16 8 4 2 1			64 32 16 8 4 2 1
Y	89	1 0 1 1 0 0 1	D	68	1 0 0 0 1 0 0
o	111	1 1 0 1 1 1 1	i	105	1 1 0 1 0 0 1
u	117	1 1 1 0 1 0 1	d	100	1 1 0 0 1 0 0
You			Did		

3- 01000111-01101111-1101111-1100100			4- 01001010 01101111 1100010		
Letter	Dec	Binary	Letter	Dec	Binary
		64 32 16 8 4 2 1			64 32 16 8 4 2 1
G	71	1 0 0 0 1 1 1	J	74	1 0 0 1 0 1 0
o	111	1 1 0 1 1 1 1	o	111	1 1 0 1 1 1 1
o	111	1 1 0 1 1 1 1	b	98	1 1 0 0 0 1 0
d	100	1 1 0 0 1 0 0	Job		
Good					

