Binary to decimal:

$(101011)_2 \rightarrow (\ )_{10}$

$32+0+8+0+2+1 = 43$

2	43	1
2	21	1
2	10	0
2	5	1
2	2	0
	1	

$(101011)_2$

$(60)_{10} \Rightarrow$

$(59)_{10} \Rightarrow$

$(111100)_2$

$1+2+8+16+32 = 59$

$(111011)_2$

$(60)_{10} \rightarrow (101100)_2$

$(50)_{10} \Rightarrow (\ )_2$

even → 0

odd → 1

$(010010)_2$

→ 2 (2^1)

→ 4 (2^2)

→ 8 (2^3)

0 1 2 3 4 5 6 7 8 9

0 1

codechef

```
int n=50;
if (n%2==0)  if (n&1)==0
  sout(even);   sout(even)
```

int n=(60)$_{10}$ → ( )$_2$

2	60	0
2	30	0
2	15	1
2	7	1
2	3	1
	1	

$(111100)_2$

int x=(59)$_{10}$ sout(x);

(59)$_{10}$ → ( )$_2$

2	59	1
2	29	1
2	14	1
2	7	0
2	3	1
	1	

$(111011)_2$

$111011 \rightarrow 59$

$128 \rightarrow 10000000$

Bit manipulation (DSA lvl-2)

byte	short	int	long
(8 bits)	(16 bits) (2 byte)	(32 bits) (4 byte)	(64 bits) (8 byte)

Byte:

128

-2^{n-1} to $2^{n-1}-1$

-2^{31} to $2^{31}-1$

-2^{63} to $(2^{63}-1)$

-2^{31}

$2^{31}-1$

TO-DOS :

i) Is fibonacci?

ii) Tribonacci.

iii) Mathematical version of pattern &.

iv) Limak and Bob candy.

v) Int.MIN and
Int.MAX.