Lec-61

14/01/26 11:19 AM

| BW ^ XOR   << >>   0^a = a

a	b	a^b
0	0	0
1	1	0
0	1	1
1	0	1

a^a = 0

101
101
000

[2, 3, 1, 3, 2]

a^b^c^a^b = c

n

[ ]n-1

n=7
[2, 1, 3, 5, 7, 4]

(n x (n+1))/2 - sum

(2^1^3^5^7^4)^(1^2^3^4^5^6^7)

84   64

2	84	0
2	42	1
2	21	1
2	10	0
2	5	1
2	2	0
2	1	1
	0	

while(n>0){
 rem = n%2
 if(rem==1){
  cnt
 }
 n = n/2
}

(n&1)==1

n>>1

while(n>0){
 if(n&1)==1){
  cnt
 }
 n>>=1
}

log(n)

n

0101 10110
010110 1,01

while(n>0){
 n = n&(n-1)
 cnt
}

2^n   sc

abc

bc, a   bc

c, bc

c, abc, a   ac a bc b c

abc ab

2^n

012
abc

$2^3 = 8$

i	bits	subset
i=0	000	-
i=1	001	a
i=2	010	b
i=3	011	ab
i=4	100	c
i=5	101	ac
i=6	110	bc
i=7	111	abc

000 -> HHH
001 THH
101 -> THT

abc

i=5
while(i>0){
 if(i&1)==1){
 }
 i>>=1
 idx++
}

[2, 3, 5, 1, 7, 5, 3, 2]   O(n) T.C   O(n) SC

i^7 = 6

101

[2, 5, 18, 24, 2, 5]

mask = 010

G1	G2
2	5
18	24
2	5

0010010
0011000
00 01 0 | 10 -> 10

int a = 0
010
101
000

mask & 1 = 0
a^2^18^2 = 18

0001000

1   1<<1   10

T.C log(n)

1<<3
1000

0010 0100
0010 0011   n-1
11011100
00100100

0 0100 100

11011011
111

11 0 11100

n&(~(n-1))

00100100
00100011
11 0111 00
00100100

(n&(~(n-1)))

n&(-n)