Program1:setting kth bit

int setKthBit(int N, int K)

{

return 1<<K|N;

}

And(&)

OR(|)

Xor(^)

<<

18\*2=36

>>

18/2=9

10<<2=1000

11<<3=11000

N=10

K=2

1010

1<<k=1<<2=100

1010

0100(0r)

1110

->set(or)=1<<k|n

->unset(and)=~(1<<k)&n

N=10

K=2

1010

~(1<<k)=1<<2=~(0100)=1011

1010

1011

1010

K=3

1<<3=~(1000)=0111

1010

0111

0010

10<<3=10000

1101>>2=11

11101100<<3=01100000

11101100<<1=11011000

11101100>>3=00011101

->toggling(swapping bits)

Xor

N=10,k=2

1010

(1<<k)=1<<2=(0100)

1010

0100

1110

Program2: swap to bytes in a nimble

int swapNibbles(unsigned char x){

int a,b,c;

a=x;

b=a&15;

c=a>>4&15;

return b<<4|c;

}

100=0110 0100

=>0100 0110

B=a&15

15=1111

01100100

00001111

0000 0100=b

C=a>>4&15

01100100>>4=00000110

00000110

00001111

00000110=c

B=0100,c=0110

B<<4=0100<<4=01000000

01000000

00000110

01000110

Program3:gray to binary

Inv=0

for(;n;n=n>>1)

inv^=n;

inv=0;

while(n!=0){

inv=inv^n;

n=n>>1;

}

n=4

100

000

100

100=inv ------(1)

N=n>>1=100>>1=010

010

100

110=inv -------(2)

N=n>>1=010>>1=001

001

110

111=inv -------(3)

N=n>>1=001>>1=000