```cpp
#include <iostream>
/*
some of manipulations on bits of any number you can check it
*/
int number, indx;
using namespace std;
/*
count on bits in any integer number like 26 will give you 3 bits depends on its
binary representation
    26 = 1 1 0 1 0 so on bits are 3
*/
int count_on_bits(int number)
{
    int on_bits = 0;
    while(number)
    {
        if((number & 1)) ++on_bits; // check if bit is on or off
        number >>=1; // remove last bit you have checked it above
    }
    return on_bits;
}
/*
    below function can get any bit on or off of any number in binary representation

*/
bool get_any_bit(int number, int indx)
{
    return ( ( number >> indx ) & 1);
}
/*
    below you can set any bit of any number to one and number will be changed to
another value for ex
    26 = 1 1 0 1 0
    I need to set the third bit from right to be 1 then the number will be 30
instead of 26

*/
int set_any_bit_to_1(int number, int indx)
{
    return (number | (1<<indx));
}
/*
    below you can set any bit of any number to zero and number will be changed to
another value for ex
    26 = 1 1 0 1 0
    I need to set the fourth bit from right to be 0 then the number will be 18
instead of 26

*/
int set_any_bit_to_0(int number, int indx)
{
    return (number & ~(1<<indx));
}
/*
    below you can flip any bit of any number to zero if one and one if zero
    and number will be changed to another value for ex
    26 = 1 1 0 1 0
    I need to flip the fourth bit from right

*/
int flip_any_bit_to_opposite(int number, int indx)
{
    return (number ^ (1<<indx));
}

int main()
{
    // count bits of number
    printf("Please Enter your number to count its on bits\n");
    scanf("%d", &number);
    printf("%d\n", count_on_bits(number));

    // get specific bit on or off
    printf("Please Enter your two number to get specific bit on or off\n");
    scanf("%d %d", &number, &indx);
    if(get_any_bit(number,indx)) printf("This is bit is on ^__^\n");
    else printf("sorry this is bit is off ):\n");

    // set specific bit to 1 if its off
    printf("Please Enter your two number to set specific bit to be on\n");
    scanf("%d %d", &number, &indx);
    printf("%d\n", set_any_bit_to_1(number,indx));

    // set specific bit to 0 if its on
```

```c
    printf("Please Enter your two number to set specific bit to be off\n");
    scanf("%d %d", &number, &indx);
    printf("%d\n", set_any_bit_to_0(number,indx));

     // flip specific bit
    printf("Please Enter your two number to flip specific bit\n");
    scanf("%d %d", &number, &indx);
    printf("%d\n", flip_any_bit_to_opposite(number,indx));

    return 0;
}
```