

# Program to find 2's Complement

## CODE:

```
#include <iostream>
using namespace std;
int main()
{
    int bs;
    cout<<"Enter bit size (4, 6, 8) : ";
    cin>>bs;
    char bn[bs + 1], oc[bs + 1], tc[bs + 1];
    int i, c=1;
    int r = 0;
    cout << " Input a " << bs << " bit binary value: ";
    cin >> bn;
    for (i = 0; i < bs; i++)
    {
        if (bn[i] == '1')
        {
            oc[i] = '0';
        }
        else if (bn[i] == '0')
        {
            oc[i] = '1';
        }
        else
        {
            cout << "Invalid Input. please enter in 0/1." << endl;
            r = 1;
            break;
        }
    }
    oc[bs] = '\0';

    for (i = bs - 1; i >= 0; i--)
    {
        if (oc[i] == '1' && c == 1)
        {
```

```

        tc[i] = '0';
    }
    else if (oc[i] == '0' && c == 1)
    {
        tc[i] = '1';
        c = 0;
    }
    else
    {
        tc[i] = oc[i];
    }
}
tc[bs] = '\0';
if (r == 0)
{
    cout << "-----\n";
    cout << " The original binary = " << bn << endl;
    cout << " One's complement value = " << oc << endl;
    cout << " Two's complement value = " << tc << endl;
}
}
}

```

## OUTPUT:

The screenshot shows a terminal window with the following content:

```

PS M:\Mayur\C1g Notes\5th SEM\Theory of Computation\programs> cd "m:\Mayur\C1g Notes\5th SEM\Theory of Computation\programs\" ; if ($?) { g
++ 2s_Complement.cpp -o 2s_Complement } ; if ($?) { .\2s_Complement }
Enter bit size (4, 6, 8) : 6
Input a 6 bit binary value: 01101110
-----
The original binary = 01101110
One's complement value = 100100
Two's complement value = 100101

```