

<https://course.acciojob.com/idle?question=b1396346-1146-43c5-8dbd-bfc14da01bc1>

● EASY

● Max Score: 30 Points

# Swap all odd and even bits

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Given an unsigned integer  $n$ . Your task is to swap all odd bits with even bits.

You have to complete `swapBits` function which consists of single integer input  $n$  and prints integer output in the same function only

## Input Format

First line contains single integer  $N$ .

## Output Format

Print number formed by swapping odd and even bits.

## Example 1

Input

23

Output:

43

Explanation

The given number is 23 (00010111), it should be converted to 43(00101011). Here, every even position bit is swapped with adjacent bit on the right side(even position bits are highlighted in the binary representation of 23), and every odd position bit is swapped with an adjacent on the left side.

## Example 2

Input

4

Output:

8

Explanation

The given number is 4 (0100), it should be converted to 8(1000). Here, every even position bit is swapped with adjacent bit on the right side, and every odd position bit is swapped with an adjacent on the left side.

### Constraints:

$1 \leq N \leq 10^9$

#### Topic Tags

- **Bit Manipulation**

## My code

```
// n java
import java.util.*;
import java.lang.*;
import java.io.*;

public class Main
{
    static void swap(int n)
```

```

{
    int ans=0,pos=1;
    while(n>0)
    {
        int r=n%2;
        n=n/2;

        int r2=n%2;
        n=n/2;

        ans=ans+(pos*r2);
        pos*=2;
        ans=ans+(pos*r);
        pos*=2;
    }
    System.out.print(ans);
}
public static void main (String[] args) throws
java.lang.Exception
{
    //your code here

    Scanner s=new Scanner(System.in);
    int n=s.nextInt();
    swap(n);
}
}

```