

CODETANTRA

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1.1.1. Check If a Number is Even or Odd (Using Bitwise Operator)02:41

You are required to determine whether a given integer is even or odd using bitwise operations. Do not use the modulus (%) or division operator. Use bitwise AND (&) to check the least significant bit of the number.

**Input Format:**

- A single integer  $n$

**Output Format:**

- Print 'Even' if the number  $n$  is even, otherwise print 'Odd'.

**Constraints:**

- $1 \leq n \leq 10^6$

Sample Test Cases

CTC756.c

```
1#include<stdio.h>
2void main()
3{
4    int n;
5    scanf("%d",&n);
6    if(n%2 == 0){
7        printf("Even\n");
8    }
9    else if(n % 2 != 0){
10        printf("Odd");
11    }
12}
```

Average time0.065 s64.80 ms

Maximum time0.081 s81.00 ms

3 out of 3 shown test case(s) passed2 out of 2 hidden test case(s) passed

Test case 154 ms

Expected output7

Actual output7

OddOdd

Test case 281 ms

Test case 347 ms

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1.1.2. Swap Two Numbers Using Bitwise XOR10:50

Write a C program to swap two integers without using a temporary variable. Use the XOR (^) bitwise operator to perform the swap.

**Input Format:**

- Two space-separated integers  $a$  and  $b$

**Output Format:**

- Print the swapped values in the format:  
After swapping:  $a = [a]$ ,  $b = [b]$

**Constraints:**

- $1 \leq a, b \leq 10^6$

Sample Test Cases

CTC757.c

```
1#include<stdio.h>
2void main()
3{
4    int a,b,swap1,swap2;
5    scanf("%d %d",&a,&b);
6    swap1 = a + b - a;
7    swap2 = b + a - b;
8    printf("After swapping: a = %d, b = %d",swap1,swap2);
9}
```

Average time0.074 s73.67 ms

Maximum time0.106 s106.00 ms

2 out of 2 shown test case(s) passed1 out of 1 hidden test case(s) passed

Test case 157 ms

Expected output10 20

Actual output10 20

After swapping: a = 20, b = 10After swapping: a = 20, b = 10

Test case 258 ms

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