S.No: 7	Exp. Name: ***Write a C program to check whether the given number is Even or Odd using Bit-wise, Shift, and Arithmetic Operators***	Date:2023-01-07

ID: 22K61A0580

Aim:

Write a **C** Program to check whether the given number is `even` or `odd` using **bit-wise** operator, **shift** operator, and **arithmetic** operator.

Sample Input and Output:

```
Enter an integer : 233
Using bit-wise operator : 233 is an odd number
Using shift operator : 233 is an odd number
Using arithmetic operator : 233 is an odd number
```

Source Code:

evenOrOdd.c

```
#include <stdio.h>
int main() {
   int number;
   printf("Enter an integer : ");
   scanf("%d",&number);
   printf("Using bit-wise operator : ");
   if (number&1) {
      printf("%d is an odd number\n", number);
 }   else {
        printf("%d is an even number\n", number);
    }
   printf("Using shift operator : ");
   if ((number>>1)<<1==number) {
      printf("%d is an even number\n", number);
 }   else {
      printf("%d is an odd number\n", number);
 }
   printf("Using arithmetic operator : ");
   if ( number%2==0) {
      printf("%d is an even number\n", number);
 }   else {
      printf("%d is an odd number\n", number);
 }
   return 0;
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter an integer : 12
Using bit-wise operator : 12 is an even number
Using shift operator : 12 is an even number
Using arithmetic operator : 12 is an even number

Test Case - 2
User Output
Enter an integer : 233
Using bit-wise operator : 233 is an odd number
Using shift operator : 233 is an odd number
Using arithmetic operator : 233 is an odd number

Test Case - 3
User Output
Enter an integer : 119
Using bit-wise operator : 119 is an odd number
Using shift operator : 119 is an odd number
Using arithmetic operator : 119 is an odd number

Test Case - 4
User Output
Enter an integer : 11111
Using bit-wise operator : 11111 is an odd number
Using shift operator : 11111 is an odd number
Using arithmetic operator : 11111 is an odd number

Test Case - 5
User Output
Enter an integer : 92345
Using bit-wise operator : 92345 is an odd number
Using shift operator : 92345 is an odd number
Using arithmetic operator : 92345 is an odd number

Test Case - 6
User Output
Enter an integer : 99
Using bit-wise operator : 99 is an odd number
Using shift operator : 99 is an odd number
Using arithmetic operator : 99 is an odd number

Test Case - 7
User Output
Enter an integer : 311
Using bit-wise operator : 311 is an odd number
Using shift operator : 311 is an odd number
Using arithmetic operator : 311 is an odd number