Operators in C Language

1. Write a program to print unit digit of a given number

```c
#include <stdio.h>
int main()
{
    int n;
    printf("Enter a number : ");
    scanf("%d", &n);
    printf("Unit digit of a given number is %d", n % 10);
    return 0;
}
```

```
Output:
Enter a number : 59874
Unit digit of a given number is 4
```

2. Write a program to print a given number without its last digit.

```c
#include <stdio.h>
int main()
{
    int n;
    printf("Enter a number : ");
    scanf("%d", &n);
    printf("Unit digit of a given number is %d", n / 10);
    return 0;
}
```

```
Output:
Enter a number : 70280540
Unit digit of a given number is 7028054
```

3. Write a program to swap values of two int variables

```c
#include <stdio.h>
int main()
{
    int a, b, c;
    printf("Enter two numbers : ");
    scanf("%d%d", &a, &b);
    printf("Before swapping\na = %d, b = %d", a, b);
    c = a; // assign value of a in c
    a = b; // assign value of b in a
    b = c; // assign value of c in b
    printf("\nAfter swapping\na = %d, b = %d", a, b);
    return 0;
}
```

```
Output:
Enter two numbers : 15 25
Before swapping
a = 15, b = 25
After swapping
a = 25, b = 15
```

4. Write a program to swap values of two int variables without using a third variable.

```c
#include <stdio.h>
int main()
{
    int a, b;
    printf("Enter two numbers : ");
```

```
    scanf("%d%d", &a, &b);
    printf("Before swapping\na = %d, b = %d", a, b);
    a = a + b;
    b = a - b;
    a = a - b;
    printf("\nAfter swapping\na = %d, b = %d", a, b);
    return 0;
}
================================================================================
Output:
Enter two numbers : -10 26
Before swapping
a = -10, b = 26
After swapping
a = 26, b = -10
```

5. Write a program to input a three-digit number and display the sum of the digits.

```
#include <stdio.h>
int main()
{
    int n, s = 0, r;
    printf("Enter a numbers : ");
    scanf("%d", &n);
    r = n % 10; // 256%10=6
    n = n / 10; // 256/10=25
    s = s + r;  // 0+6=6
    r = n % 10; // 25%10=5
    n = n / 10; // 25/10=2
    s = s + r;  // 6+5=11
    r = n % 10; // 2%10=2
    s = s + r;  // 11+2=13
    printf("The sum of the digits = %d", s);
    return 0;
}
================================================================================
Output:
Enter a numbers : 698
The sum of the digits = 23
```

6. Write a program which takes a character as an input and displays its ASCII code.

```
#include <stdio.h>
int main()
{
    char a;
    printf("Enter a character : ");
    scanf("%c", &a);
    printf("ASCII code\n%c = %d", a, a);
    return 0;
}
================================================================================
Output:
Enter a character : @
ASCII code
@ = 64
```

7. Write a program to find the position of first 1 in LSB.

```
#include <stdio.h>
int main()
{
    int n, binResult = 0, count = 0;
    printf("Enter a number : ");
    scanf("%d", &n);
```

```
    while (n != 0)
    {
        binResult = n & 1;
        count++;
        if (binResult == 1)
        {
            printf("Position of first 1 is %d", count);
            break;
        }
        n = n >> 1; //right shift value of n in binary format
    }
    return 0;
}
```

```
Output:
Enter a number : 9
Position of first 1 is 1
```

8. Write a program to check whether the given number is even or odd using a bitwise operator.

```
#include <stdio.h>
int main()
{
    int n, x;
    printf("Enter a number : ");
    scanf("%d", &n);
    (n & 1) == 0 ? printf("Even number") : printf("Odd number"); // using
bitwise-& operator
    //(n | 1) == (n + 1) ? printf("Even number") : printf("Odd number"); //
using bitwise-| operator
    //(n ^ 1) == (n + 1) ? printf("Even number") : printf("Odd number"); //
using bitwise-^ operator
    return 0;
}
```

```
Output:
Enter a number : 12
Even number
```

9. Write a program to print size of an int, a float, a char and a double type variable

```
#include <stdio.h>
int main()
{
    int a;
    float b;
    char c;
    double d;
    printf("Size of int %d bytes\n", sizeof(a));
    printf("Size of float %d bytes\n", sizeof(b));
    printf("Size of char %d bytes\n", sizeof(c));
    printf("Size of double %d bytes", sizeof(d));
    return 0;
}
```

```
Output:
Size of int 4 bytes
Size of float 4 bytes
Size of char 1 bytes
Size of double 8 bytes
```

10. Write a program to make the last digit of a number stored in a variable as zero. **(Example - if x=2345 then make it x=2340)**

```
#include <stdio.h>
```

```c
int main()
{
    int n, r;
    printf("Enter a number : ");
    scanf("%d", &n);
    r = n % 10;
    n = n - r;
    printf("The last digit of a number stored in a variable as zero : %d",
n);
    return 0;
}
```

```
Output:
Enter a number : 5678
The last digit of a number stored in a variable as zero : 5670
```

11. Write a program to input a number from the user and also input a digit. Append a digit in the number and print the resulting number. **(Example - number=234 and digit=9 then the resulting number is 2349)**

```c
#include <stdio.h>
int main()
{
    int a, b;
    printf("Enter a number and also enter a digit : ");
    scanf("%d%d", &a, &b);
    a = a * 10;
    a = a + b;
    printf("Appended number is %d", a);
    return 0;
}
```

```
Output:
Enter a number and also enter a digit : 234 9
Appended number is 2349
```

12. Assume price of 1 USD is INR 76.23. Write a program to take the amount in INR and convert it into USD.

```c
#include <stdio.h>
int main()
{
    float n;
    printf("Enter amount (INR) :");
    scanf("%f", &n);
    printf("USD : %f", (n * 76.23));
    return 0;
}
```

```
Output:
Enter amount (INR) :55.23
USD : 4210.182865
```

13. Write a program to take a three-digit number from the user and rotate its digits by one position towards the right.

```c
#include <stdio.h>
int main()
{
    int n, r;
    printf("Enter a three digit number : ");
    scanf("%d", &n);
    r = n % 10;
```

```
    n = n / 10;
    r = r * 100;
    n = n + r;
    printf("%d", n);
    return 0;
}
```

==========

```
Output:
Enter a three digit number : 897
789
```