Assignment 2 - Operators in C language

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

Program -

```
#include <stdio.h>

int main()
{
   int n;
   printf("Enter a number: ");
   scanf("%d",&n);
   int unit_digit = n % 10;
   printf("Unit digit is %d",unit_digit);

   return 0;
}
```

Output -

```
Enter a number: 345
Unit digit is 5
```

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

Program -

```
#include <stdio.h>

int main()
{
   int n;
   printf("Enter a number: ");
   scanf("%d",&n);
   printf("Number without it's last digit is %d",n/10);

   return 0;
}
```

Output -

```
Enter a number: 78923
Number without it's last digit is 7892
```

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

Program -

```
#include <stdio.h>

int main()
{
   int a , b , c;

   printf("Enter the value of a and b: ");
   scanf("%d%d",&a,&b);
   printf("Before swapping: a = %d , b = %d",a,b);
   c = a;
   a = b;
   b = c;

   printf("\nAfter swapping: a = %d , b = %d",a,b);

   return 0;
}
```

Output -

```
Enter the value of a and b: 4 5
Before swapping: a = 4 , b = 5
After swapping: a = 5 , b = 4
```

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

Program -

```
#include <stdio.h>
int main()
{
   int a , b;

   printf("Enter the value of a and b: ");
   scanf("%d%d",&a,&b);
   printf("Before swapping: a = %d , b = %d",a,b);
   a = a + b;
   b = a - b;
   a = a - b;

   printf("\nAfter swapping: a = %d , b = %d",a,b);

   return 0;
}
```

Output-

```
Enter the value of a and b: 7 2
Before swapping: a = 7 , b = 2
After swapping: a = 2 , b = 7
```

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

Program -

```
#include <stdio.h>
int main()
{
   int num , digit , sum = 0;

   printf("Enter a three digit number: ");
   scanf("%d",&num);

   while(num)
   {
      digit = num % 10;
      num = num / 10;
      sum += digit;
   }

   printf("Sum of it's digits is %d",sum);

   return 0;
}
```

Output -

```
Enter a three digit number: 345
Sum of it's digits is 12
```

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

Program -

```
#include <stdio.h>
int main()
{
   char ch;
   printf("Enter a character: ");
   scanf("%c",&ch);
   printf("ASCII code of %c is %d",ch,ch);

   return 0;
}
```

Output -

```
Enter a character: A
ASCII code of A is 65
```

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

Program -

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

Program -

```
#include <stdio.h>
int main()
{
   int num;

   printf("Enter a number: ");
   scanf("%d",&num);
   if(num & 1)
    printf("Not an even number!");
   else
    printf("Even number!");
   return 0;
}
```

Output -

```
Enter a number: 24
Even number!
```

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

Program -

```
#include <stdio.h>
int main()
{
   printf("Size of int type variable is %d",sizeof(int));
   printf("\nSize of float type variable  is %d",sizeof(float));
   printf("\nSize of char type variable is %d",sizeof(char));
   printf("\nSize of double type variable is %d",sizeof(double));

   return 0;
}
```

Output -

```
Size of int type variable is 4
Size of float type variable  is 4
Size of char type variable is 1
Size of double type variable is 8
```

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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)

Program -

```
#include <stdio.h>
int main()
{
   int x;

   printf("Enter a number: ");
   scanf("%d",&x);

   x = (x/10) * 10;

   printf("Resulting number is %d",x);
   return 0;
}
```

Output -

```
Enter a number: 2345
Resulting number is 2340
```

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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)

Program -

```
#include <stdio.h>
int main()
{
  int num , digit;

  printf("Enter a number and a digit: ");
  scanf("%d%d",&num,&digit);

  num = num * 10 + digit;

  printf("Resulting number is %d",num);

  return 0;
}
```

Output -

```
Enter a number and a digit: 234 9
Resulting number is 2349
```

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

Program -

```
#include <stdio.h>
int main()
{
  float USD = 76.23;
  int INR;

  printf("Enter the amount in INR: ");
  scanf("%d",&INR);

  USD = INR/USD;

  printf("%d USD is %f INR",INR,USD);

  return 0;
}
```

Output -

```
Enter the amount in INR: 34
34 USD is 0.446019 INR
```

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

Program -

```
#include <stdio.h>
int main()
{
  int num;
  printf("Enter a three-digit number: ");
  scanf("%d",&num);

  printf("Before rotation : %d",num);

  num = ((num % 10) * 100) + (num / 10);
  printf("\nAfter rotation : %d",num);

  return 0;
}
```

Output -

```
Enter a three-digit number: 546
Before rotation : 546
After rotation : 654
```