Day 3-(Operators & switch-case)
Assignment no:-13

Input two numbers and swap them using bit wise operators.

Program code:

```c
#include<stdio.h>

void main()

{

    int num1,num2,xor;

    printf("Enter the two numbers: ");

    scanf("%d %d",&num1,&num2);

    printf("The numbers before swap is: %d, %d\n",num1,num2);

    xor=num1^num2;

    num1=xor^num1;

    num2=xor^num2;

    printf("The numbers after swap is: %d, %d",num1,num2);

}
```

Output:

Enter the two numbers: 12 23
The numbers before swap is: 12, 23
The numbers after swap is: 23, 12

Assignment no:-14

Find the numbers of zeros and number of ones in its memory representation of an unsigned integer

Program code:

```c
#include<stdio.h>
void main()
{
    int num,i,andmusk,zeros=0,ones=0;
    printf("Enter a number: ");
    scanf("%d",&num);
    for(i=0;i<16;i++)
    {
        andmusk=1<<i;
        if(num & andmusk)
            ones++;
        else
            zeros++;
    }
    printf("number of zeros are %d and number of ones are
%d",zeros,ones);
}
```

Output:

Enter a number: 23

number of zeros are 12 and number of ones are 4

Assignment no:-15

Convert an unsigned integer to its equivalent binary using bitwise operator.

Program code:

```
#include<stdio.h>
void main()
{
    unsigned int num;
    int i,andmusk;
    printf("Enter a number: ");
    scanf("%u",&num);
    for(i=15;i>=0;i--)
    {
        andmusk=1<<i;
        if(num & andmusk)
            printf("1");
        else
            printf("0");
    }
}
```

Output:

Enter a number: 12
0000000000001100

Assignment no:-16

Find the maximum of three numbers using ternary operator.

Program code:

```c
#include<stdio.h>
void main()
{
    int num1,num2,num3;
    printf("Enter 3 numbers: ");
    scanf("%d %d %d",&num1,&num2,&num3);
    (num1>num2) ? ((num1>num3) ? (printf("%d is maximum",num1)) :
(printf("%d is maximum",num3))) : ((num2>num3) ? (printf("%d is
maximum",num2)) : (printf("%d is maximum",num3)));
}
```

Output :

Enter 3 numbers: 23 34 54

54 is maximum

Assignment no:-17

Implement simple arithmetic calculator using switch case.

Program code:

```c
#include<stdio.h>
int main()
{
    char operator;
    float firstNumber,secondNumber;
    printf("Enter an operator (+, -, *,/): ");
    scanf("%c", &operator);
    printf("Enter two operands: ");
    scanf("%f %f",&firstNumber, &secondNumber);
    switch(operator)
    {
        case '+':
            printf("%.2f + %.2f = %.2f",firstNumber, secondNumber,
firstNumber + secondNumber);
            break;
        case '-':
            printf("%.2f - %.2f = %.2f",firstNumber, secondNumber,
firstNumber - secondNumber);
            break;
        case '*':
            printf("%.2f * %.2f = %.2f",firstNumber, secondNumber,
firstNumber * secondNumber);
            break;
        case '/':
            printf("%.2f / %.2f = %.2f",firstNumber, secondNumber,
firstNumber / secondNumber);
            break;
        // operator doesn't match any case constant (+, -, *, /)
        default:
            printf("Error! operator is not correct");
    }

    return 0;
}
```

Output:

Enter an operator (+, -, *,/): *

Enter two operands: 12 4

12.00 * 4.00 = 48.00

Display the number of days for a given month.

Program code:

```c
#include<stdio.h>
int main()
{
    int month;
    printf("Enter a month: ");
    scanf("%d",&month);
    switch(month)
    {
            case 1:
             printf("January has 31 days");
             break;
            case 2:
             printf("February has 28 days");
             break;
            case 3:
             printf("March has 31 days");
             break;
            case 4:
             printf("April has 30 days");
             break;
            case 5:
             printf("May has 31 days");
             break;
            case 6:
             printf("June has 30 days");
             break;
            case 7:
             printf("July has 31 days");
             break;
            case 8:
             printf("August has 31 days");
             break;
            case 9:
             printf("september has 30 days");
             break;
            case 10:
             printf("October has 31 days");
             break;
            case 11:
             printf("November has 30 days");
             break;
            case 12:
             printf("December has 31 days");
             break;
        default:
```

```
            printf("Error! wrong month number");
    }
    return 0;
}
```

Output:

Enter a month: 5
May has 31 days

Assignment no:-19

Input a character from the user and check if it is a vowel or consonant.

Program code:

```
#include<stdio.h>
int main()
{
    char letter;
    printf("Enter an alphabet: ");
    scanf("%c",&letter);
    if((letter>='a' && letter<='z')|(letter>='A' && letter<='Z'))

                if(letter=='a'|letter=='e'|letter=='i'|letter=='o'|l
etter=='u'|letter=='A'|letter=='E'|letter=='I'|letter=='O'|letter=='U'
)
                        printf("%c is vowel",letter);
                    else
                        printf("%c is consonant",letter);
                else
                    printf("It is not an alphabet");
    return 0;
}
```

Output:

Enter an alphabet: s
s is consonant

Enter an alphabet: O
O is vowel