**Day 3-(Operators & switch-case)**

**Assignment no:-13**

**Input two numbers and swap them using bit wise operators.**

***Program code:***

#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:***

#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:***

#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:***

#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

**Assignment no:-18**

**Display the number of days for a given month.**

***Program code:***

#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'|letter=='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