1.Write a C program to check least significant bit and most significant bit is set or unset.

#include <stdio.h>

#define BITS sizeof(int)\*8

void main()

{

int num,msb;

printf("Enter any number\n");

scanf("%d",&num);

msb=1<<(BITS-1);

if(num & msb)

printf("MSB of %d is set (1)\n",num);

else

printf("MSB of %d is unset (0)\n",num);

if(num & 1)

printf("LSB of %d is set (1)\n",num);

else

printf("LSB of %d is unset (0)\n",num);

}

2. Write a C program to find the factorial of a given number.

#include <stdio.h>

void main()

{

int n,fact;

printf("Enter any number\n");

scanf("%d",&n);

printf("Factorial of %d = ",n);

for (fact=1;n!=0;n--)

fact=fact\*n;

printf("%d\n",fact);

}

3. WAP to Swapping nibbles in a byte.

#include <stdio.h>

unsigned char swap(unsigned char n)

{

unsigned char num;

num=((n&0x0F)<<4|(n&0xF0)>>4);

return num;

}

void main()

{

unsigned char number;

unsigned char revNumber;

printf("Enter an integer number\n");

scanf("%u",&number);

revNumber=swap(number);

printf("Number after swapping nibbles = %u\n",revNumber);

}

4. WAP for Counting number of one’s and zero’s in an integer.

#include<stdio.h>

void main()

{

int n,r,ones=0,zeroes=0;

printf("Enter any Number\n");

scanf("%d",&n);

while(n!=0)

{

r=n%10;

if(r==1)

ones++;

if(r==0)

zeroes++;

n=n/10;

}

printf("Number of ones = %d\n", ones);

printf("Number of zeroes = %d\n", zeroes);

}

5. WAP to find whether the given number is palindrome or not.

#include <stdio.h>

void main()

{

int a,n,r;

printf("enter any number\n");

scanf("%d",&n);

a=n;

for(r=0;n!=0;n/=10)

r=r\*10+n%10;

if(a==r)

printf("palindrome\n");

else

printf("not a palindrome\n");

}

6. WAP to find whether a year is leap year or not.

#include<stdio.h>

void main()

{

int year;

printf("Enter any year\n");

scanf("%d",&year);

if(year%4 == 0)

{

if( year%100 == 0)

{

if ( year%400 == 0)

printf("%d is a leap year\n", year);

else

printf("%d is not a leap year\n", year);

}

else

printf("%d is a leap year\n", year );

}

else

printf("%d is not a leap year\n", year);

}

7. WAP to convert a binary number to a decimal number.

#include <stdio.h>

#include <math.h>

int convertBinaryToDecimal(long long n);

void main()

{

long long n;

printf("Enter a binary number\n");

scanf("%lld",&n);

printf("%lld in binary = %d in decimal",n,convertBinaryToDecimal(n));

}

int convertBinaryToDecimal(long long n)

{

int decimalNumber=0,i=0,r;

while (n!=0)

{

r=n%10;

n/=10;

decimalNumber+=r\*pow(2,i);

++i;

}

return decimalNumber;

}

8. WAP to print a Fibonacci series

#include<stdio.h>

void main()

{

int n,first=0,second=1,next,c;

printf("Enter the number of terms\n");

scanf("%d", &n);

printf("First %d terms of Fibonacci series are: ", n);

for (c=0;c<n;c++)

{

if (c<=1)

next=c;

else

{

next = first + second;

first = second;

second = next;

}

printf("%d\t",next);

}

}

9. WAP to check whether entered number is Armstrong number or not

#include <stdio.h>

#include <math.h>

void main()

{

int n,a,r,result = 0,b=0;

printf("Enter any number\n");

scanf("%d",&n);

a=n;

while (a!=0)

{

a/=10;

++b;

}

a=n;

while (a!=0)

{

r=a%10;

result+=pow(r,b);

a/=10;

}

if(result==n)

printf("%d is an Armstrong number\n", n);

else

printf("%d is not an Armstrong number\n", n);

}

10. Access values into an array and arrange them in Ascending and Descending order.

#include<stdio.h>

void main()

{

int a[100],n,i,j,k;

printf("enter size of array\n");

scanf("%d",&n);

printf("enter elements of array\n");

for(i=0;i<n;i++)

scanf("%d",&a[i]);

for(i=0;i<n;i++)

{

for (j=0;j<n;j++)

{

if (a[j]>a[i])

{

k=a[i];

a[i]=a[j];

a[j]=k;

}

}

}

printf("Ascending Order of elements is\n");

for (int i=0;i<n;i++)

printf(" %d ",a[i]);

printf("\n");

for (i=0;i<n;i++)

{

for (j=0;j<n;j++)

{

if (a[j]<a[i])

{

k=a[i];

a[i]=a[j];

a[j]=k;

}

}

}

printf("Descending Order of elements is\n");

for (int i=0;i<n;i++)

printf(" %d ", a[i]);

}

11. Write a C program to create Simple Calculator using switch case.

# include <stdio.h>

void main()

{

char operator;

int a,b;

printf("Enter any operator\n");

scanf("%c",&operator);

printf("Enter any two numbers\n");

scanf("%d%d",&a,&b);

switch(operator)

{

case '+':

printf("%d + %d = %d\n",a,b,a+b);

break;

case '-':

printf("%d - %d = %d\n",a,b,a-b);

break;

case '\*':

printf("%d \* %d = %d\n",a,b,a\*b);

break;

case '/':

printf("%d / %d = %d\n",a,b,a/b);

break;

case '%':

printf("%d mod %d = %d\n",a,b,a%b);

break;

default:

printf("Error! operator is not correct");

}

}

12. WAP to find second largest number in an array.

#include <stdio.h>

#include<limits.h>

void main()

{

int arr[100],size,i,max1,max2;

printf("Enter size of the array\n");

scanf("%d",&size);

printf("Enter elements in the array\n");

for(i=0;i<size;i++)

scanf("%d",&arr[i]);

max1=max2=INT\_MIN;

for(i=0;i<size;i++)

{

if(arr[i] > max1)

{

max2 = max1;

max1 = arr[i];

}

else if(arr[i] > max2 && arr[i] < max1)

max2 = arr[i];

}

printf("Second largest = %d\n",max2);

}

14. Perform all arithmetic operations using functions.

#include<stdio.h>

void main()

{

int a,b;

printf("Enter any two numbers\n");

scanf("%d%d",&a,&b);

sum(a,b);

sub(a,b);

mul(a,b);

div(a,b);

}

void sum(int x,int y)

{

printf("Sum = %d\n",x+y);

}

void sub(int x,int y)

{

printf("Subtraction = %d\n",x-y);

}

void mul(int x,int y)

{

printf("Product = %d\n",x\*y);

}

void div(int x,int y)

{

printf("Division = %d\n",x/y);

}