

C programming

1).Write a program to convert decimal number into binary number using function.

```
#include<stdio.h>
#include<conio.h>
void binary(int);
void main()
{
    int i;
    clrscr();

    printf("Enter the number:");
    scanf("%d",&i);
    binary(i);
    getch();
}
void binary(int i)
{
    while(i!=0)
    {
        printf("%d",i%2);
        i=i/2;
    }
}
```

Output:

```
Enter the number:20
00101
```

2).Write a user defined function to search a string from the list of five strings.

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

```
#include<string.h>
void string(char x[][64],char y[],int n);
void string(char x[][64],char y[],int n)
{
    int i,count=0;
    for(i=0;i<n;i++)
    {
        if(strcmp(y,x[i])==0)
        {
            count++;
        }
    }
    printf("\nString found %d times",count);
}
void main()
{
    int i,j,n;
    char a[10][64],b[64];
    clrscr();

    printf("Enter no of string= ");
    scanf("%d",&n);
    printf("Enter string= \n");
    fflush();
    for(i=0; i<n; i++)
    {
        gets(a[i]);
    }
    printf("\nEnter string to be searches: ");
    gets(b);
    string(a,b,n);
    getch();
}
```

output:

Enter no of string= 5

Enter string=

Harsh

Yash

Sneh

Krishna

Harsh

Enter string to be searched: Harsh

String found 2 times

3).Write a function prime that returns 1 if its argument is a prime number and returns zero otherwise.

```
#include<stdio.h>
#include<conio.h>
int prime(int);
int main()
{
    int n,p;
    clrscr();
    printf("Enter a number: ");
    scanf("%d",&n);
    p=prime(n);
    if(p==1)
        printf("%d is prime number\n",n);
    else
        printf("%d is not prime number\n",n);
    getch();
    return 0;
}
int prime(int n)
{
    int i;
    for(i=2;i<n;i++)
    {
        if(n%i==0)
```

```
    return 0;  
}  
    return 1;  
}
```

Output:

Enter a number: 7
7 is prime number

4).Write a function which checks if a given number is Armstrong or not.

```
#include<stdio.h>  
#include<conio.h>  
int arm(int);  
  
void main()  
{  
    int n,a;  
    clrscr();  
  
    printf("Enter no= ");  
    scanf("%d",&n);  
    a=arm(n);  
    if (a==1)  
    {  
        printf("\n%d is Armstrong number",n);  
    }  
    else  
    {  
        printf("\n%d id not armstrong number",n);  
    }  
    getch();  
}  
int arm(int n)  
{
```

```
int r,arm=0,x;
x=n;
while(n!=0)
{
    r=n%10;
    arm=(r*r*r)+arm;
    n=n/10;
}
if(x==arm)
{
    return(1);
}
else
{
    return(0);
}
}
```

Output:

Enter no= 153

153 is Armstrong number

5).Write a function which take two argument and print all the prime numbers between given two number.

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

```
#include<conio.h>
```

```
void prime(int);
```

```
void main()
```

```
{
```

```
int n,i;
```

```
clrscr();
```

```
printf("Enter last no: ");
```

```
scanf("%d",&n);
```

```
for(i=0;i<n;i++)
{
    prime(i);
}
getch();
}
void prime(int a)
{
    int i,f=0;
    if(a==0 || a==1)
    {
        f=1;
    }
    for(i=2;i<=a/2;i++)
    {
        if(a%i==0)
        {
            f=1;
            break;
        }
    }
    if(f==0)
    {
        printf("%d prime number \n",a);
    }
}
```

Output:

Enter last no: 7
2 prime number
3 prime number
5 prime number

6).Write a recursive function for finding factorial of given number.

#include<stdio.h>

```
#include<conio.h>
int fact(int);

void main()
{
    int num,f;
    clrscr();
    printf("Enter the number: ");
    scanf("%d",&num);
    f=fact(num);
    printf("factorial of %d is %d",num,f);
    getch();
}

int fact(int n)
{
    if(n==0)
    {
        return 1;
    }
    else
    {
        return(n*fact(n-1));
    }
}
```

Output:

Enter the number: 7
Factorial of 7 is 5040

7).Write a recursive function for print Fibonacci series.

```
#include<stdio.h>
#include<conio.h>
void fib(int);

void main()
```

```
{
    int k=0,f=1,n;
    clrscr();
    printf("\nEnter the range of fibonacci series= ");
    scanf("%d",&n);
    printf("\nFibonacci series= ");
    printf("%d%d",k,f);
    fib(n);
    getch();
}
void fib(int n)
{
    static long int first=0,second=1,sum;
    if(n>0)
    {
        sum=first+second;
        first=second;
        second=sum;
        printf(" %d",sum);
        fib(n-1);
    }
}
```

Output:

Enter the range of fibonacci series= 7
Fibonacci series= 0 1 1 2 3 5 8 13 21

8).Write menu-driven program that will perform following tasks using UDFs by passing a string argument to each function.

- a. Exit**
- b. Print String**
- c. Length of String**
- d. Copy First String into Second String**
- e. Copy Second String into First String**
- f. Compare Two String**

g. Reverse String**h. Concatenating Two String**

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void opt(char);

void main()
{
    char ch;
    clrscr();
    printf("\n a. exit");
    printf("\n b. print string");
    printf("\n c. length of string");
    printf("\n d. copy one string to two string");
    printf("\n e. copy two string to one string");
    printf("\n f. compare two string");
    printf("\n g. reverse string");
    printf("\n h. concatenating two string");
    printf("\n enter the charecter: ");
    fflush();
    scanf("%c",&ch);

    if(ch>='a' || ch<='z')
    {
        ch-=32;
    }
    opt(ch);
    getch();
}

void opt(char ch)
{
    int x=0;
    char a[64],b[64];
```

```
switch(ch)
{
    case 'A':
        printf("\n thank you");
        break;
    case 'B':
        printf("\n enter the string: ");
        scanf("%s",a);
        printf("\n your string is = %s",a);
        break;
    case 'C':
        printf("\n enter the string: ");
        scanf("%s",a);
        x=strlen(a);
        printf("\n your string length = %d",x);
        break;
    case 'D':
        printf("\n enter the one string: ");
        scanf("%s",a);
        printf("\n enter the two string: ");
        fflush();
        scanf("%s",b);
        printf("\n your string = %s",a);
        break;
    case 'E':
        printf("\n enter the one string: ");
        scanf("%s",b);
        printf("\n enter the two string: ");
        scanf("%s",a);
        strcpy(a,b);
        printf("\n your string = %s",a);
        break;
    case 'F':
        printf("\n enter the one string: ");
        scanf("%s",a);
```

```
    printf("\n enter the two string: ");
    scanf("%s",b);
    x=strcmp(a,b);
    printf("\n comparision = %d",x);
    break;
case 'G':
    printf("\n enter the string: ");
    scanf("%s",a);
    strrev(a);
    printf("\n reverse string: %s",a);
    break;
case 'H':
    printf("\n enter the one string: ");
    scanf("%s",a);
    printf("\n enter the two string: ");
    scanf("%s",b);
    strcat(a,b);
    printf("\n concatenating of two string = %s",a);
    break;
default:
    printf("tnx.");
    break;
}
}
```

Output:

- a. Exit
 - b. Print String
 - c. Length of String
 - d. Copy First String into Second String
 - e. Copy Second String into First String
 - f. Compare Two String
 - g. Reverse String
 - h. Concatenating Two String
- enter the character: 9

enter the string: krishna
reverse string: anhsirk

9). Write a program that will pass an array of numbers to the function and returns count of odd numbers from the function.

```
#include<stdio.h>
#include<conio.h>
void count(int n,int x[])
{
    int i,cnt=0;
    for(i=0;i<n;i++)
    {
        if(x[i]%2!=0)
        {
            cnt++;
        }
    }
    printf("\nNumber of odd element=%d",cnt);
}

void main()
{
    int a[10],i,n;
    clrscr();
    printf("\nEnter number of element of array: ");
    scanf("%d",&n);
    printf("Enter element of array:\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    count(n,a);
    getch();
}
```

Output:

Enter number of element of array: 5

Enter element of array:

1

2

3

4

5

Number of odd element=3

Python

1).write a program to print "welcome to python".

```
print("welcome to python")
```

output:

welcom to python

2).write a program to add two numbers and print it.

```
a=int(input('Enter the value of A: '))
b=int(input('Enter the value of B: '))
c=a+b
print('Sum of A and B is:',c)
```

output:

Enter the value of A: 5
Enter the value of B: 6
Sum of A and B is: 11

3).write a program to check variables in python.

```
def func():
    local_var=0
    is_local="local_var" in locals()
    print(is_local)
func()
```

output:

True

4).write a program to create a variable of all datatypes in python.

```
a=123
b='abc'
c=12.3
d=1j
e=["apple","banana","cherry"]
f=("apple","banana","cherry")
g={"apple","banana","cherry"}
h=range(6)
```

```
print(a,'is',type(a),'datatype')
print(b,'is',type(b),'datatype')
print(c,'is',type(c),'datatype')
print(d,'is',type(d),'datatype')
print(e,'is',type(e),'datatype')
print(f,'is',type(f),'datatype')
print(g,'is',type(g),'datatype')
print(h,'is',type(h),'datatype')
```

output:

```
123 is <class 'int'> datatype
abc is <class 'str'> datatype
12.3 is <class 'float'> datatype
1j is <class 'complex'> datatype
['apple', 'banana', 'cherry'] is <class 'list'> datatype
('apple', 'banana', 'cherry') is <class 'tuple'> datatype
{'cherry', 'banana', 'apple'} is <class 'set'> datatype
range(0, 6) is <class 'range'> datatype
```

5).write a program to perform arithmetic operator.

```
a=int(input('enter the value of a:'))
b=int(input('enter the value of b:'))
print('a+b:',a+b)
print('a-b:',a-b)
print('a8b:',a*b)
```

```
print('a//b:',a//b)
print('a/b:',a/b)
print('a%b:',a%b)
print('a**b:',a**b)
```

output:

```
enter the value of a:5
enter the value of b:6
a+b: 11
a-b: -1
a8b: 30
a//b: 0
a/b: 0.8333333333333334
a%b: 5
a**b: 15625
```

6).write a program to check given number is even or odd.

```
a=int(input('Enter a number:'))
if a%2==0:
    print(a,'is even number')
else:
    print(a,'is odd number')
```

output:

```
Enter a number:5
5 is odd number
```

7).write a program to check given number is positive or negative.

```
a=int(input('Enter a number:'))
if a>0:
    print(a,'is positive number')
elif a<0:
    print(a,'is negative number')
```


else:

```
print(a,'is zero')
```

output:

Enter a number:-9

-9 is negative number

8).write a program to convert decimal number into binary, octal and hexadecimal number.

```
a = int(input("Enter a Number: "))
print("Hexadecimal: ",hex(a))
print("Octal: ",oct(a))
print("Binary: ",bin(a))
```

output:

Enter a Number: 12

Hexadecimal: 0xc

Octal: 0o14

Binary: 0b1100

9).write a program to convert binary, octal a hexadecimal number into decimal.

```
print("Select input type: \n1.Binary (0b1010101)\n2.Octal (125)\n3.Hexadecimal (0x55)\n")
```

```
choise = int(input("Enter your choise: "))
```

```
def Binary():
```

```
    num = bin(input("Enter an Binary number :"))
    print("The decimal value is :",int(num))
```

```
def OctalToDecimal():
```

```
    num = input("Enter an octal number :")
    decimal_value = 0
    base = 1
```

```
while (num):
    last_digit = num % 10
    num = int(num / 10)
    decimal_value += last_digit * base
    base = base * 8
print("The decimal value is :",decimal_value)

def Hexadecimal():
    num = input("Enter an Hexadecimal number :")
    print("The decimal value is: ",int(num))

if choise == 1:
    Binary()
elif choise == 2:
    OctalToDecimal()
elif choise == 3:
    Hexadecimal()
```

Output:

Select input type:

- 1.Binary (0b1010101)
- 2.Octal (125)
- 3.Hexadecimal (0x55)

Enter your choise: 1

Enter an binary number : 0b1010101

The decimal value is: 85

10).write a program to swap to variables.

```
a=int(input('Enter a number for A:'))
b=int(input('Enter a number for B:'))
c=a
a=b
b=c
print('A is',a)
```

```
print('B is',b)
```

output:

Enter a number for A:25

Enter a number for B:45

A is 45

B is 25

11).write a program to find area of triangle.

```
breath=int(input("Enter the value of breath of triangle:"))
```

```
height=int(input("Enter the value of height of triangle:"))
```

```
area=0.5*(breath*height)
```

```
print('the area of triangle is:',area)
```

output:

Enter the value of breath of triangle:25

Enter the value of height of triangle:46

the area of triangle is: 575.0

12).write a program to find area of circle.

```
pi=3.14
```

```
r=int(input('enter the radius of circle:'))
```

```
area=pi*(r*r)
```

```
print('the area of circle:',area)
```

output:

enter the radius of circle:12

the area of circle: 452.16

13).write a program to find area of rectangle.

```
breath=int(input('enter the length of rectangle:'))
```

```
height=int(input('enter the width of rectangle:'))  
area=height*breath  
print('the area of rectangle is:',area)
```

output:

```
enter the length of rectangle:23  
enter the width of rectangle:26  
the area of rectangle is: 598
```

14).write a program to find area of square.

```
leng=int(input('enter the length of square:'))  
a=leng*leng  
print('the area of a square is',a)
```

output:

```
enter the length of square:25  
the area of a square is 625
```

15).write a program to convert feet to inch.

```
feet=int(input('enetr the feet:'))  
inch=12*feet  
print(feet,'is in inch:',inch)
```

output:

```
enetr the feet:5  
5 is in inch: 60
```

16).write a program to find maximum of three number.

```
a=int(input('enter the value of a:'))  
b=int(input('enter the value of b:'))  
c=int(input('enter the value of c:'))  
if a>b and a>c:
```

```
print('a is greatest number')
elif b>c:
    print('b is greatest number')
else:
    print('c is greatest number')
```

output:

```
enter the value of a:45
enter the value of b:5
enter the value of c:6
a is greatest number
```

17).write a program to find less number from given two variables.

```
a=int(input('enter the value of a:'))
b=int(input('enter the value of b:'))
if a<b:
    print('a is smallest number')
else:
    print('b is smallest number')
```

output:

```
enter the value of a:35
enter the value of b:5
b is smallest number
```

18).write a program to check year is leap year not.

```
y=int(input('Enter a year: '))
if y%4==0:
    print (y,' is leap year')
else:
    print ( y, 'is not leap year')
```

output:

Enter a year: 2000
2000 is leap year

19).write a program to print factorial of number.

```
n=int(input('enter the value'))  
fact=1  
for i in range(1,n+1):  
    fact=fact*i
```

output:

enter the value2
1
2

20).write a program to check prime numbers.

```
num=int(input('Enter the number:'))  
if num>1:  
    for i in range(2,int(num/2)+1):  
        if(num%i)==0:  
            print(num,"is not a prime number")  
        else:  
            print(num,"is a prime number")
```

output:

Enter the number:5
5 is a prime number

21).write a program to display multiplication table.

```
n=int(input('Enter the number for Multiplication table: '))  
for i in range(1,11):  
    a=n*i  
    print(n,'*',i,'=',a)
```

output:

Enter the number for Multiplication table: 5

5 * 1 = 5

5 * 2 = 10

5 * 3 = 15

5 * 4 = 20

5 * 5 = 25

5 * 6 = 30

5 * 7 = 35

5 * 8 = 40

5 * 9 = 45

5 * 10 = 50

22).write a program to print odd numbers between two numbers.

```
a=int(input('enter 1st value:'))
b=int(input('enter 2nd value:'))
print('odd number between',a,'and',b)
for i in range (a, b+1):
    if i%2!=0:
        print(i)
```

output:

enter 1st value:1

enter 2nd value:10

odd number between 1 and 10

1

3

5

7

9

23).write a program to print even numbers between two numbers.

```
a=int(input('enter first value:'))
b=int(input('enter last value:'))
print('odd number between',a,'and',b)
for i in range(a,b+1):
    if i%2==0:
        print(i)
```

output:

```
enter first value:4
enter last value:10
odd number between 4 and 10
4
6
8
10
```

24).write a program to print sum of N numbers.

```
n=int(input('enter the number:'))
sum=0
for i in range(1,n+1):
    sum=sum+i
print('sum is :',sum)
```

output:

```
enter the number:5
sum is : 15
```

25).write a program to check Armstrong number.

```
num = int(input("Enter a number: "))
sum = 0
temp = num
while temp > 0:
    digit = temp % 10
```



```
sum += digit ** 3
temp //= 10
if num == sum:
    print(num,"is an Armstrong number")
else:
    print(num,"is not an Armstrong number")
```

output:

Enter a number: 4

4 is not an Armstrong number