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# 1)Write a program to read annual salary of an employee and decide tax withheld as follows:

 Salary
 Tax

 Upto 100000
 0%

 Upto 150000
 15%

 Above 150000
 25%

```
#include <stdio.h>
#include <stdlib.h>
int main()
int sal,tax;/*sal=salary*/
float total;
printf("Enter salary per year Rs:", sal);
scanf("%d", &sal);
if (sal<=100000)
printf("Tax is 0 percent, so your Salary after paying tax is Rs
%d \n\n ",sal);
else if (sal>100000 && sal<=150000)
total=sal-(0.15*sal);
printf("Tax is 15 percent, so your Salary after paying tax is
Rs %f \n", total);
tax=sal-total;
printf("Tax amount is Rs %d\n",tax);
}
else if(sal>150000)
total=sal-(0.25*sal);
printf("Tax is 25 percent, so your Salary after paying tax is Rs
%f \n ", total);
tax=sal-total;
printf("Tax amount is Rs %d\n",tax);
system("pause");
return(0);
```

### F:\Untitled1.exe

Enter salary per year Rs:90000 Tax is 0 percent,so your Salary after paying tax is Rs 90000 Press any key to continue . . .

Press any key to continue .

### 3)WAP that add digits of 4 digit number.

```
#include<stdio.h>
#include<stdlib.h>
int main()
   int a, sum=0;
   printf("Enter four digit number= ");
   scanf("%d", &a);
   sum=sum+(a%10);
   a=a/10;
   sum=sum+(a%10);
   a=a/10;
   sum=sum+(a%10);
   a=a/10;
   sum=sum+(a%10);
   a=a/10;
   sum=sum+(a%10);
   printf("sum of digits=%d \n", sum);
   system("pause");
   return(1);
```

### C:\Users\SANJAYA\Desktop\c\adding 4 numbers.exe

```
Enter four digit number= 1675
sum of digits=19
Press any key to continue . . .
```

### 4)WAP to calculate diameter, circumference and area of circle.

```
/*a program that evaluates area and circumference of of circle*/
#include <stdio.h>
#define pie 3.14
int main()
{
float Area, Circumference, r, diameter;
printf("Enter the value of radius of Circle in cm=",r);
scanf("%f",&r);
Circumference=2*pie*r;
Area=pie*r*r;
diameter=2*r;
printf("\n");
printf("Diameter of circle is %f \n\n", diameter);
printf("Circumference of circle is %f \n\n", Circumference);
printf("Area of circle is %f \n\n", Area);
system("pause");
return(0);
```

```
C:\Users\SANJAYA\Desktop\c\area.exe
Enter the value of radius of Circle in cm=14
Diameter of circle is 28.000000
Circumference of circle is 87.920000
Area of circle is 615.440000
Press any key to continue . . . _
```

### 5)WAP that reverse the number.(4 digit number)

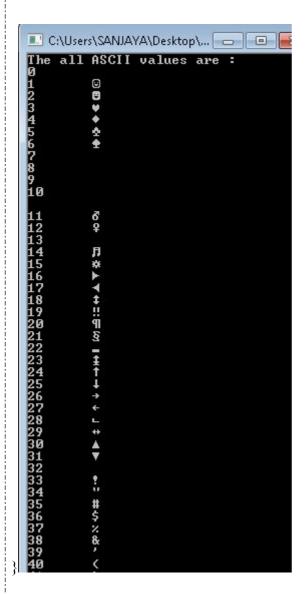
```
#include <stdio.h>
int main()
int num;
printf("Enter the number: ");
scanf("%d",&num);
printf("The reverse of %d is : ", num);
printf("%d", num%10);
num=num/10;
printf("%d", num%10);
num=num/10;
printf("%d", num%10);
num=num/10;
printf("%d", num%10);
scanf("%d", &num);
return(1);
```

### C:\Users\SANJAYA\Desktop\c\creative.exe

Enter the number: 8349 The reverse of 8349 is : 9438

### 6) Write a program that displays all Ascii codes.

```
#include <stdio.h>
int main()
int i;
printf("The all ASCII values are : ");
for (i=0; i <= 256; i++)
printf("\n%d \t%c",i,i);
system("pause");
return(0);
```



### 7) Write a program for delta star transformation of resistance.

```
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```

```
scanf("%Lf", &R12);
printf("Enter the value of R23(in ohm)=");
scanf("%Lf", &R23);
printf("Enter the value of R13(in ohm)=");
scanf("%Lf", &R13);
R1=(R12*R13)/(R12+R23+R13);
printf("Resistance in R1(in ohm) is %Lf\n",R1);
R2=(R12*R23)/(R12+R23+R13);
printf("Resistance in R2(in ohm) is %Lf\n",R2);
R3=(R13*R23)/(R12+R23+R13);
printf("Resistance in R3(in ohm) is %Lf\n",R3);
scanf("%lf",&R3);
return(1);
}
```

### 8) Write a program will swap the value of these two numbers.

```
#include <stdio.h>
int main()
float a,b,temp;
printf("Enter value of a: ");
scanf("%f", &a);
printf("Enter value of b: ");
scanf("%f", &b);
temp=a; /*Value of a is stored in variable temp */
a=b; /*Value of b is stored in variable a*/
b=temp; /*Value of temp(which contains initial value of a) is
stored in variable b*/
printf("After swapping, value of a = fn', a;
printf("After swapping, value of b = fn'', b);
system("pause");
return (0);
}
```

```
C:\Users\SANJAYA\Desktop\.exe

Enter value of a: 12.8

Enter value of b: 81.6

After swapping, value of a = 81.599998

After swapping, value of b = 12.800000

Press any key to continue . . .
```

# 9)/\* This program computes the size of variable using size of operator.\*/ #include <stdio.h> int main()

```
int main()
{
int a;
float b;
double c;
char d;
printf("Size of int: %d bytes\n", sizeof(a));
printf("Size of float: %d bytes\n", sizeof(b));
printf("Size of double: %d bytes\n", sizeof(c));
printf("Size of char: %d byte\n", sizeof(d));
system("pause");
return (0);
}
```

```
C:\Users\SANJAYA\Desktop\.exe

Size of int: 4 bytes
Size of float: 4 bytes
Size of double: 8 bytes
Size of char: 1 byte

Press any key to continue . . . _
```

# 10)/\*C Program to find roots of a quadratic equation when coefficients are entered by user\*/

```
/*Library function sqrt() computes the square root*/
#include <stdio.h>
#include <math.h> /*This is needed to use sqrt() function*/
int main()
{
  float a,b,c,determinant,r1,r2,real,imag;
  printf("Enter coefficients a,b and c: ");
  scanf("%f%f%f",&a,&b,&c);
  if (a==0.0)
{
    printf("It is not a quadratic equation");
    exit(1);
  }
  determinant=b*b-4*a*c;
  if(determinant<0.0)
  printf("\nRoots are imaginary\n");</pre>
```

```
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else if (determinant>0.0)
printf("Roots are real and unequal");
r1=(-b+sqrt(determinant))/(2*a);
r2=(-b-sqrt(determinant))/(2*a);
printf("\nfirst root:%f",r1);
printf("\nsecond root:%f",r2);
else if(determinant==0)
r1 = r2 = -b/(2*a);
printf("Roots are real and equal\n");
printf("Roots are :%f and %f\n",r1,r2);
else
real=-b/(2*a);
imag =sqrt(-determinant)/(2*a);
printf("Roots are: %f+%fi and %f-%fi \n", real, imag, real, imag);
system("pause");
return (0);
 C:\Users\SANJAYA\Desktop\.exe
 Enter coefficients a,b and c: 8 5 4
 Roots are imaginary
Press any key to continue . . . _
 C:\Users\SANJAYA\Desktop\.exe
 Enter coefficients a,b and c: 2 3 0
Roots are:0.000000 and -1.500000
 Press any key to continue .
 C:\Users\SANJAYA\Desktop\.exe
Enter coefficients a.b and c: 1 4 Roots are real and equal
Roots are :-2.000000 and -2.000000
 Press any key to continue . .
11)/* C program to find largest number using if statement only */
#include <stdio.h>
int main()
float a, b, c;
printf("Enter three numbers a b c: ");
scanf("%f %f %f", &a, &b, &c);
                                    8th
                                                  sanjaya chauwal
C programming programs
```

```
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if(a>=b \&\& a>=c)
printf("Largest number is a =%f\n",a);
if(b)=a \&\& b>=c)
printf("Largest number is b=%f\n",b);
if(c)=a \&\& c>=b)
printf("Largest number is c=%f\n",c);
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\ds.exe
Enter three numbers a b c: 4 2 8
Largest number is c=8.000000
Press any key to continue . . .
12)WAP to calculate Sum of Natural Numbers.
/* This program is solve using for loop*/
#include <stdio.h>
int main()
int n,count,sum=0;
printf("Enter an integer:");
scanf("%d",&n);
for(count=1;count<=n;++count)/* for loop terminates if count>n
*/
sum+=count;/* sum=sum+count */
printf("Sum of natural number=%d\n", sum);
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\ds.exe
Enter an integer:100
Sum of natural number=5050
Press any key to continue .
13) Source Code to Find Factorial of a Number.
/*C program to display factorial of an integer if user enters
non-negative integer*/
#include <stdio.h>
int main()
int n, count;
unsigned long long int factorial=1;
printf("Enter an integer: ");
scanf("%d",&n);
```

```
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if (n<0)
printf("Error!!! Factorial of negative number doesn't
exist\n");
else
for(count=1;count<=n;++count) /*for loop terminates if</pre>
count>n*/
factorial*=count; /*factorial=factorial*count*/
printf("Factorial = %lu", factorial);
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\ds.exe
Enter an integer: -88
Error!!! Factorial of negative number doesn't exist
Press any key to continue . . . _
C:\Users\SANJAYA\Desktop\ds.exe
Enter an integer: 11
Factorial = 39916800Press any key to continue .
14) Source Code to Generate Multiplication Table
#include <stdio.h>
int main()
int n, range, i;
printf("Enter an integer to find multiplication table: ");
scanf("%d",&n);
printf("Enter range of multiplication table: ");
scanf("%d", &range);
for(i=1;i<=range;++i)
printf("%d * %d = %d\n", n, i, n*i);
system("pause");
return 0;
}
```

```
Enter an integer to find multiplication table: 10
Enter range of multiplication table: 15
10 * 1 = 10
10 * 2 = 20
10 * 3 = 30
10 * 4 = 40
10 * 5 = 50
10 * 6 = 60
10 * 7 = 70
10 * 8 = 80
10 * 9 = 90
10 * 10 = 100
10 * 11 = 110
10 * 12 = 120
10 * 13 = 130
10 * 14 = 140
10 * 15 = 150
Press any key to continue . . .
```

### 15)Source Code to Compute LCM

```
#include<stdio.h>
int main()
{
  int n1,n2,temp1,temp2;
  printf("Enter two positive integers:");
  scanf("%d %d",&n1,&n2);
  temp1=n1;
  temp2=n2;
  while(temp1!=temp2)
{
  if(temp1>temp2)
  temp1-=temp2;
  else temp2-=temp1;
}
  printf("LCM of two numbers %d and %d is %d\n\n",n1,n2,(n1*n2)/temp1);
  system("pause");
  return 0;
}
```

```
C:\Users\SANJAYA\Desktop\ds.exe

Enter two positive integers: 4 7

LCM of two numbers 4 and 7 is 28

Press any key to continue . . . _
```

### 16)C Program to Check Palindrome Number

```
/*C program to check whether a number is palindrome or not */
#include <stdio.h>
int main()
{
```

```
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int n,reverse=0,rem,temp;
printf("Enter an integer: ");
scanf("%d",&n);
temp=n;
while (temp!=0)
rem=temp%10;
reverse=reverse*10+rem;
temp/=10; } /* Checking if number entered by user and it's reverse
number is equal. */
if(reverse==n)
printf("%d is a palindrome\n",n);
else
printf("%d is not a palindrome\n",n);
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\ds.exe
Enter an integer: 454
454 is a palindrome
Press any key to continue
C:\Users\SANJAYA\Desktop\ds.exe
Enter an integer: 42565
42565 is not a palindrome
Press any key to continue
17) Source Code to Make Simple Calculator in C programming
tint main()
char o;
float num1, num2;
printf("Enter operator either + or - or * or divide : ");
scanf("%c", &o);
printf("Enter two operands: ");
scanf("%f%f", &num1, &num2);
switch(o)
case '+':
printf("%f + %f = %f\n", num1, num2, num1+num2);
break;
case '-':
printf("%f - %f = %f\n", num1, num2, num1-num2);
case '*':printf("%f * %f = %f\n", num1, num2, num1*num2);
break;
case '/':
                                 12th
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C programming programs
```

```
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printf("%f / %f = %f\n", num1, num2, num1/num2);
break;
default: /*If operator is other than +, -, * or /, error message
is shown */
printf("Error! operator is not correct");
break;
system("pause");
return 0;
 C:\Users\SANJAYA\Desktop\ds.exe
 Enter operator either + or - or * or divide :
Enter two operands: 44 90
44.0 * 90.0 = 3960.0
 Press any key to continue \dots
C:\Users\SANJAYA\Desktop\ds.exe
Enter operator either + or - or * or divide : +
Enter two operands: 10 88
10.0 + 88.0 = 98.0
Press any key to continue .
18) Source Code to Display Largest Element of an array
#include <stdio.h>
int main()
int i,n;
float arr[100];
printf("Enter total number of elements(1 to 100): ");
scanf("%d",&n);
printf("\n");
for(i=0;i<n;++i)/* Stores number entered by user*/</pre>
printf("Enter Number %d:",i+1);
scanf("%f", &arr[i]);
for(i=1;i<n;++i) /* Loop to store largest number to arr[0] */
if(arr[0]<arr[i]) /* Change < to > if you want to find smallest
element*/
arr[0]=arr[i];
printf("Largest element = %f\n", arr[0]);
system("pause");
return 0;
```

```
C:\Users\SANJAYA\Desktop\ds.exe

Enter total number of elements(1 to 100): 5

Enter Number 1:2
Enter Number 2:88
Enter Number 3:53
Enter Number 4:14
Enter Number 5:48
Largest element = 88.000000
Press any key to continue . . . _
```

### 19) A program to find whether given year year is leap or not.

```
#include <stdio.h>
#include <stdlib.h>
int main()
int n;
printf("Enter year:");
scanf("%d",&n);
if ((n%4==0 \&\& n%100!=0) | |n%400==0)
printf("\nThis is leap year");
printf("\nThis is not leap year ");
scanf("%d",&n);
return(1);
C:\Users\SANJAYA\Desktop\c\Untitled2.exe
Enter year:2052
This is leap year_
C:\Users\SANJAYA\Desktop\c\Untitled2.exe
Enter year:2071
This is not leap year
```

### 20) Source code to multiply to matrix in C programming

```
#include <stdio.h>
int main()
{
int a[10][10],b[10][10],mult[10][10]r1,c1,r2,c2,i,j,k;
    printf("Enter rows and column for first matrix:");
    scanf("%d%d",&r1, &c1);
    printf("Enter rows and column for second matrix:");
    scanf("%d%d",&r2, &c2);
/* If colum of first matrix in not equal to row of second
matrix,exit */
```

```
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   while (c1!=r2)
   {
      printf("Error! column of first matrix not equal to row
of second So there will be no multiplication\n\n");
      exit(1);
   }
/* Storing elements of first matrix. */
   printf("\nEnter elements of matrix 1:\n");
   for(i=0; i<r1; ++i)
   for(j=0; j<c1; ++j)
      printf("Enter elements a%d%d: ",i+1,j+1);
      scanf("%d", &a[i][j]);
/* Storing elements of second matrix. */
   printf("\nEnter elements of matrix 2:\n");
   for(i=0; i<r2; ++i)
   for(j=0; j<c2; ++j)
   printf("Enter elements b%d%d: ",i+1,j+1);
   scanf("%d",&b[i][j]);
/* Initializing elements of matrix mult to 0.*/
   for(i=0; i<r1; ++i)
   for (j=0; j<c2; ++j)
     mult[i][j]=0;
   }
/* Multiplying matrix a and b and storing in array mult. */
   for(i=0; i<r1; ++i)
   for (j=0; j<c2; ++j)
   for (k=0; k<c1; ++k)
    mult[i][j] += a[i][k]*b[k][j];
   }
/* Displaying the multiplication of two matrix. */
   printf("\nOutput Matrix:\n");
   for(i=0; i<r1; ++i)
   for (j=0; j<c2; ++j)
      printf("%d ",mult[i][j]);
      if(j==c2-1)
C programming programs
                                          sanjaya chauwal
```

```
printf("\n\n");
}
system("pause");
return 0;
}
```

```
Enter rows and column for first matrix:2 2
Enter rows and column for second matrix:2 2
Enter elements of matrix 1:
Enter elements a11: 1
Enter elements a12: 0
Enter elements a21: -5
Enter elements a22: 8

Enter elements of matrix 2:
Enter elements b11: -8
Enter elements b12: 9
Enter elements b22: 4

Output Matrix:
-8 9

88 -13

Press any key to continue . . .
```

21)WAP to enter two numbers. Make the comparisons using conditional operator. If the first number is greater than second perform addition otherwise subtraction.

```
#include <stdio.h>
int main()
   int A,B,ADD,SUB;
   printf("Enter the first operand:");
   scanf("%d", &A);
   printf("Enter the Second operand:");
   scanf("%d", &B);
   if(A>B)
   ADD=A+B;
   printf("Since A is greater than B, so on addition A+B
=%d\n", ADD);
   }
   else
   SUB=A-B;
   printf("Since B is greater than A, so on Subtraction A-B
=%d\n", SUB);
```

```
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                                                 Sanjaya chauwal
    system("pause");
    return 0;
 C:\Users\SANJAYA\Desktop\.exe
Enter the first operand:4
Enter the Second operand:-8
Since A is greater than B,so on addition A+B =-4
 Press any key to continue . . .
C:\Users\SANJAYA\Desktop\.exe
Enter the first operand:5
Enter the Second operand:16
Since B is greater than A.so on Subtraction A-B =-11
Press any key to continue . . .
22)C Program to Find Transpose of a Matrix
#include <stdio.h>
int main()
int a[10][10], trans[10][10], r, c, i, j;
printf("Enter rows and column of matrix: ");
scanf("%d %d", &r, &c); /* Storing element of matrix entered by
user in array a[][]. */
printf("\nEnter elements of matrix:\n");
for (i=0; i < r; ++i) for (j=0; j < c; ++j)
printf("Enter elements a%d%d: ",i+1,j+1);
scanf("%d", &a[i][j]);
/* Displaying the matrix a[][] */
printf("\nEntered Matrix: \n");
for(i=0; i<r; ++i)
for (j=0; j<c; ++j)
printf("%d ",a[i][j]);
if(j==c-1)
printf("\n\n");
} /* Finding transpose of matrix a[][] and storing it in array
trans[][]. */
for(i=0; i<r; ++i)
for (j=0; j < c; ++j)
trans[j][i]=a[i][j];
} /* Displaying the transpose, i.e, Displaying array trans[][].
*/
```

```
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```

printf("\nTranspose of Matrix:\n");

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```
for (i=0; i< c; ++i)
 for (j=0; j < r; ++j)
printf("%d ",trans[i][j]);
if(j==r-1)
printf("\n\n");
system("pause");
return 0;
  }
C:\Users\SANJAYA\Desktop\.exe
Enter rows and column of matrix: 2 3
Enter elements of matrix:
Enter elements a11: 1
Enter elements a12: 2
Enter elements a13: 3
Enter elements a21: 4
Enter elements a22: 5
Enter elements a23: 6
Entered Matrix:
1 2 3
 4 5 6
 Transpose of Matrix:
2 5
Press any key to continue . . .
```

### 23) Source Code to Add Two Matrix in C programming

```
#include <stdio.h>
int main() {
   int r,c,a[100][100],b[100][100],sum[100][100],i,j;
   printf("Enter number of rows (between 1 and 100): ");
   scanf("%d",&r);
   printf("Enter number of columns (between 1 and 100): ");
   scanf("%d",&c);
   printf("\nEnter elements of 1st matrix:\n");
/* Storing elements of first matrix entered by user. */
   for(i=0;i<r;++i)
        for(j=0;j<c;++j)
        {
            printf("Enter element a%d%d: ",i+1,j+1);
        }
}</pre>
```

```
For Update :sanjayachauwal.wordpress.com
                                                        Sanjaya chauwal
         scanf("%d", &a[i][j]);
        }
    printf("Enter elements of 2nd matrix:\n");
    for(i=0;i<r;++i)
        for (j=0; j < c; ++j)
            printf("Enter element a%d%d: ",i+1,j+1);
            scanf("%d",&b[i][j]);
/*Adding Two matrices */
   for(i=0;i<r;++i)
        for (j=0; j < c; ++j)
            sum[i][j]=a[i][j]+b[i][j];
/* Displaying the resultant sum matrix. */
    printf("\nSum of two matrix is: \n\n");
    for(i=0;i<r;++i)
        for(j=0;j<c;++j)
     printf("%d", sum[i][j]);
     if(j==c-1)
          printf("\n\n");
system("pause");
    return 0;
 C:\Users\SANJAYA\Desktop\.exe
Enter number of rows (between 1 and 100): 1
Enter number of columns (between 1 and 100): 3
Enter elements of 1st matrix:
Enter element a11: 1
Enter element a12: 2
Enter element a13: 6
Enter elements of 2nd matrix:
Enter element a11: -9
Enter element a12: 6
Enter element a13: -0
 Sum of two matrix is:
 Press any key to continue \dots
24) Source Code to Check Character is an alphabet or not
#include <stdio.h>
int main()
char c;
printf("Enter a character: ");
scanf("%c",&c);
if( (c>='a'&& c<='z') || (c>='A' && c<='Z'))
```

```
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                                                 Sanjaya chauwal
printf("%c is an alphabet\n",c);
else
printf("%c is not an alphabet\n",c);
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\.exe
Enter a character: 5
5 is not an alphabet
Press any key to continue
C:\Users\SANJAYA\Desktop\.exe
Enter a character: a
a is an alphabet
Press any key to continue . . .
25)WAP that extract digits from integer in c language
#include<stdio.h>
int main(){
  int num, temp, factor=1;
  printf("Enter a number: ");
  scanf("%d", &num);
  temp=num;
  while(temp) {
      temp=temp/10;
      factor = factor*10;
  printf("Each digits of given number are: \n");
  while(factor>1) {
      factor = factor/10;
      printf("%d ", num/factor);
  num = num % factor;
system("pause");
  return 0;
 C:\Users\SANJAYA\Desktop\.exe
```

```
C:\Users\SANJAYA\Desktop\.exe
Enter a number: 1587309
Each digits of given number are:
1 5 8 7 3 0 9 Press any key to continue . . . _
```

# 26) Write a c program for finding gcd (greatest common divisor) of two given numbers.

```
#include<stdio.h>
int main(){
int x, y, m, i;
printf("Insert any two number: ");
scanf("%d%d",&x,&y);
if(x>y)
      m=y;
   else
        m=x;
   for(i=m;i>=1;i--){
        if(x\%i==0\&\&y\%i==0){
            printf("\nHCF of two number is : %d\n",i) ;
   system("pause");
   return 0;
C:\Users\SANJAYA\Desktop\.exe
Insert any two number: 45 75
HCF of two number is : 15
Press any key to continue
```

# 27)Program to convert string into ASCII values in c programming language:

```
#include<stdio.h>
int main() {
    char str[100];
    int i=0;
    printf("Enter any string: ");
    scanf("%s",str);
    printf("ASCII values of each characters of given string:
\n");
    while(str[i])
    printf("%d ",str[i++]);
    system("pause");
    return 0;
}
```

```
C:\Users\SANJAYA\Desktop\.exe
Enter any string: Sanjaya
ASCII values of each characters of given string:
83 97 110 106 97 121 97 Press any key to continue . . .
```

28)C program to find out the sum of infinite G.P. series.

```
#include<stdio.h>
int main()
    float a,r;
   float sum=0;
   printf("Enter the first number of the G.P. series: ");
   scanf("%f", &a);
   printf("Enter the common ratio of G.P. series: ");
    scanf("%f",&r);
    if(1 > r)
    sum = a/(1-r);
   else
     sum = a/(r-1);
printf("\nSum of the infinite G.P. series: %f\n", sum);
system("pause");
   return 0;
 C:\Users\SANJAYA\Desktop\.exe
Enter the first number of the G.P. series: 4
Enter the common ratio of G.P. series: 5
 Sum of the infinite G.P. series: 1.000000
 Press any key to continue . . .
```

29) Write a c program to find out the sum of series  $1^3 + 2^3 + \dots + n^3$  Write a c program or code to find out the sum of series  $1^3 + 2^3 + \dots + n^3$  that is sum of cube of n natural numbers.

```
#include<stdio.h>
#include<math.h>
int main()
{
    int n,i;
    int sum=0;

    printf("Enter the n i.e. max values of series: ");
    scanf("%d",&n);
    sum = pow(((n * (n + 1) ) / 2),2);
    printf("Sum of the series : ");
```

22nd

```
For Update :sanjayachauwal.wordpress.com
                                                Sanjaya chauwal
    for(i =1;i<=n;i++) {
     if (i != n)
    printf("%d^3 + ",i);
    printf("%d^3 = %d ",i,sum);
    system("pause");
    return 0;
C:\Users\SANJAYA\Desktop\.exe
Enter the n i.e. max values of series: 2
Sum of the series : 1^3 + 2^3 = 9 Press any key to continue . .
30) Write a c program to find out the sum of series 1 + 2 + \dots + n.
Sum of 1 + 2 + \dots + n series in c programming language.
#include<stdio.h>
int main(){
   int n,i;
   int sum=0;
   printf("Enter the n i.e. max values of series: ");
   scanf("%d",&n);
   sum = (n * (n + 1)) / 2;
   printf("Sum of the series: \n");
   for(i =1;i <= n;i++)
   if (i!=n)
    printf("%d + ",i);
     printf("%d = %d \n",i,sum);
   system("pause");
   return 0;
                                                              - - X
C:\Users\SANJAYA\Desktop\.exe
     any key to continue
```

### 31)Palindrome in c without using string function

```
#include<stdio.h>
int main()
  char str[100];
  int i=0, j=-1, flag=0;
  printf("Enter a string: ");
  scanf("%s",str);
  while (str[++j]!='\setminus 0');
  j--;
  while(i<j)
      if(str[i++] != str[j--]){
           flag=1;
           break;
  if(flaq == 0)
  printf("The string is a palindrome\n");
  else
      printf("The string is not a palindrome\n");
system("pause");
  return 0;
C:\Users\SANJAYA\Desktop\.exe
Enter a string: sanjaya
The string is not a palindrome
Press any key to continue . .
 C:\Users\SANJAYA\Desktop\.exe
Enter a string: madam
The string is a palindrome
Press any key to continue
```

### 32) C program to get IP address.

```
#include<stdlib.h>
  int main()
{
    system("C:\\Windows\\System32\\ipconfig");
    system("pause");
    return 0;
}
```

```
Windows IP Configuration

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix : fe80::a4b8:10a:e7bd:37f0x10
IPv4 Address : fe80::a4b8:10a:e7bd:37f0x10
IPv4 Address : 192.168.1.6
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.1.1

Tunnel adapter isatap.
C27FCE178-0E6E-43AC-954D-F4FB2FE7607B):

Media State : Media disconnected
Connection-specific DNS Suffix : Media disconnected
Connection-specific DNS Suffix : IPv6 Address : 2001:0:9d38:6ab8:3482:327e:3f57:fef9
Link-local IPv6 Address : fe80::3482:327e:3f57:fef9x12
Default Gateway : ::
Press any key to continue : ::
```

### 33)C Program to Calculate Sum & Average of an Array

```
#include <stdio.h>
#define MAXSIZE 10
void main()
   int array[MAXSIZE];
   int i, num, negative sum = 0, positive sum = 0;
   float total = 0.0, average;
   printf ("Enter the value of N=");
   scanf("%d", &num);
   printf("Enter %d numbers (-ve, +ve and zero) \n", num);
   for (i = 0; i < num; i++)
      scanf("%d", &array[i]);
   printf("Input array elements \n");
   for (i = 0; i < num; i++)
      printf("%+3d\n",array[i]);
   /* Summation starts */
   for (i=0; i<num; i++)
      if (array[i] < 0)
      negative sum =negative sum + array[i];
      else if (array[i] > 0)
```

```
For Update :sanjayachauwal.wordpress.com
                                                Sanjaya chauwal
       positive sum =positive sum + array[i];
       else if(array[i] == 0)
       total = total + array[i] ;
   average = total / num;
   printf("\n Sum of all negative numbers=
%d\n", negative sum);
   printf("Sum of all positive numbers= %d\n", positive sum);
   printf("\n Average of all input numbers= %.2f\n", average);
system("pause");
return(0);
C:\Users\SANJAYA\Desktop\table.exe
Enter the value of N=5
Enter 5 numbers (-ve, +ve and zero)
4 -4 0 -8 8
Input array elements
Sum of all negative numbers=  —12
Sum of all positive numbers=  12
 Average of all input numbers = 0.00
Press any key to continue . .
34) Write a C program to add all the numbers entered by a user until
user enters 0.
int main()
   int sum=0, num;
   do/* Codes inside the body of do...while loops are at least
executed once.*/
        printf("Enter a number =");
         scanf("%d", &num);
         sum+=num;
   while (num!=0);
   printf("sum=%d\n", sum);
   system("pause");
return 0;
```

```
C:\Users\SANJAYA\Desktop\table.exe

Enter a number =-5
Enter a number =+41
Enter a number =0
sum=42
Press any key to continue . . . _
```

# 35) Write a program to find the sum of first n natural numbers where n is entered by user. Note: 1,2,3... are called natural numbers.

```
#include <stdio.h>
int main(){
   int n, count, sum=0;
   printf("Enter the value of n=\n");
   scanf("%d", &n);
   for(count=1;count<=n;++count) //for loop terminates if</pre>
count>n
     sum+=count;/* this statement is equivalent to
sum=sum+count */
   printf("Sum=%d\n", sum);
   system("pause");
   return 0;
C:\Users\SANJAYA\Desktop\table.exe
Enter the value of n=
Sum=154290
Press any key to continue . .
```

### 36) Source Code to Display Prime Numbers Between two Intervals

```
#include <stdio.h>
int main()
{
  int i,j,n,m,c=0;
  printf("Enter the value from which prime number to be start,M:
");
  scanf("%d",&m);
  printf("Enter the value upto which prime number to be start,N:
");
  scanf("%d",&n);
  if (m>n)
  printf("M must be smaller than N");
  for(i=m;i<=n;i++)
  {
    for(j=1;j<=i;j++)
    {
        for(j=1;j<=i;j++)
    }
}</pre>
```

```
For Update :sanjayachauwal.wordpress.com
                                                 Sanjaya chauwal
if(i%j==0)
C++;
if (c==2)
printf("\n %d \n",i);
c = 0;
}
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\prime.exe
Enter the value from which prime number to be start,M: 1
Enter the value upto which prime number to be start,N: 20
 3
 5
 11
 13
 17
Press any key to continue \dots \_
37)Source code to display Fibonacci series up to n terms
/* Displaying Fibonacci sequence up to nth term where n is entered
by user. */
#include <stdio.h>
  int main()
int count, n, t1=0, t2=1, display=0;
printf("Enter number of terms: ");
scanf("%d",&n);
printf("Fibonacci Series: %d %d ", t1, t2); /* Displaying first
two terms */
count=2;
/* count=2 because first two terms are already displayed. */
while (count<n)</pre>
display=t1+t2;
t1=t2;
t2=display;
```

```
For Update :sanjayachauwal.wordpress.com
                                                     Sanjaya chauwal
++count;
printf(" %d ", display);
printf("\n\n");
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\Untitled3.exe
                                                                       _ | D | X |
Enter number of terms:
Fibonacci Series: 0 1
7 1597 2584 4181
                                8 13 21 34 55
Press any key to continue
38) Source Code to Calculate Factorial Using Recursion
#include<stdio.h>
int factorial(int n);
int main()
int n;
printf("Enter an positive integer: ");
scanf("%d",&n);
printf("Factorial of %d = %lu",n,factorial(n));
printf("\n");
system("pause");
return 0;
int factorial(int n)
if(n!=1)
return n*factorial(n-1);
C:\Users\SANJAYA\Desktop\table.exe
Enter an positive integer: 15
Factorial of 15 = 2004310016
Press any key to continue . . .
39)WAP to sort array elements in descending order.
#include <stdio.h>
void main ()
    int number[1000];
    int i, j, a, n;
    printf("Enter the value of N=");
    scanf("%d",&n);
                                     29th
C programming programs
                                                    sanjaya chauwal
```

```
For Update :sanjayachauwal.wordpress.com
                                                Sanjaya chauwal
   printf("Enter the numbers =\n");
    for (i = 0; i < n; ++i)
    scanf("%d",&number[i]);
    /* sorting begins ... */
    for (i=0; i < n; ++i)
        for (j=i+1; j < n; ++j)
           if (number[i] < number[j])</pre>
               a =number[i];
               number[i]=number[j];
               number[j]=a;
            }
    }
   printf("The numbers arranged in descending order are given
below=\n");
   for (i=0; i< n; ++i)
       printf("%d\n", number[i]);
system("pause");
return 0;
C:\Users\SANJAYA\Desktop\p.exe
Enter the value of N=6
Enter the numbers =
4
The numbers arranged in descending order are given below=
Press any key to continue . . .
40)C Program to Find the Number of Non Repeated Elements in an
Array
#include <stdio.h>
int main()
   int array[50];
   int *ptr;
    int i, j, k, size, n;
                                  30th
C programming programs
                                               sanjaya chauwal
```

```
For Update :sanjayachauwal.wordpress.com
                                                Sanjaya chauwal
   printf("\n Enter size of the array: ");
   scanf("%d", &n);
   printf("\n Enter %d elements of an array: \n", n);
   for (i = 0; i < n; i++)
   scanf("%d", &array[i]);
   size = n;
   ptr = array;
    for (i=0;i< size;i++)
        for (j =0;j<size;j++)</pre>
           if (i==j)
               continue;
           else if (*(ptr + i) == *(ptr + j))
               k = j;
               size--;
               while (k < size)
                    *(ptr + k) = *(ptr + k + 1);
                   k++;
               \dot{j} = 0;
            }
        }
   printf("\n The array after removing duplicates is: \n");
   for (i = 0; i < size; i++)
       printf(" %d", array[i]);
    system("pause");
   return 0;
    }
C:\Users\SANJAYA\Desktop\p.exe
 Enter size of the array: 9
 Enter 9 elements of an array:
    array after removing duplicates is: 4 5 1 0 -5Press any key to continue
                                  31st
C programming programs
                                                sanjaya chauwal
```

### 41)C Program to Compute sum of the array elements using pointers.

```
#include<stdio.h>
#include<conio.h>
void main() {
   int numArray[10];
   int i, sum = 0;
   int *ptr;
   printf("\nEnter 10 elements : \n");
   for (i=0;i<10;i++)
        scanf("%d", &numArray[i]);

   ptr =numArray; /* a=&a[0] */

   for (i = 0; i < 10; i++) {
        sum = sum + *ptr;
        ptr++;
    }
    printf("The sum of array elements : %d\n", sum);
    system("pause");
}</pre>
```

# C:\Users\SANJAYA\Desktop\p.exe Enter 10 elements : 4 8 9 5 4 0 -5 4 1 3 The sum of array elements : 33

Press any key to continue . . .

### 42)C Program to find the simple interest

```
#include<stdio.h>
int main() {
  int amount, rate, time, si;

  printf("\nEnter Principal Amount(Rs): ");
  scanf("%d", &amount);

  printf("\nEnter Rate of Interest : ");
  scanf("%d", &rate);
  printf("\nEnter Period of Time(Years): ");
  scanf("%d", &time);

  si =((amount * rate * time) / 100);
  printf("\nSimple Interest :%d\n",si);
```

```
system("pause");
return(0);
}

C:\Users\SANJAYA\Desktop\p.exe

Enter Principal Amount(Rs): 10000

Enter Rate of Interest: 17

Enter Period of Time(Years): 5

Simple Interest: 8500
```

Press any key to continue . .

# 43)C Program to Implement Calender Program to display Day of the month

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
int fm(int date, int month, int year) {
  int fmonth, leap;
  //leap function 1 for leap & 0 for non-leap
  if ((year % 100 == 0) && (year % 400 != 0))
     leap = 0;
  else if (year % 4 == 0)
     leap = 1;
  else
     leap = 0;
  fmonth = 3 + (2 - leap) * ((month + 2) / (2 * month))
       + (5 * month + month / 9) / 2;
  //bring it in range of 0 to 6
  fmonth = fmonth % 7;
  return fmonth;
int day of week(int date, int month, int year) {
  int dayOfWeek;
  int YY = year % 100;
  int century = year / 100;
  printf("\nDate: %d/%d/%d \n", date, month, year);
  dayOfWeek = 1.25 * YY + fm(date, month, year) + date - 2 *
                              33rd
C programming programs
                                          sanjaya chauwal
```

```
(century % 4);
  //remainder on division by 7
  dayOfWeek =dayOfWeek%7;
  switch (dayOfWeek) {
     case 0:
       printf("weekday = Saturday");
       break:
     case 1:
       printf("weekday = Sunday");
       break;
     case 2:
       printf("weekday = Monday");
       break;
     case 3:
       printf("weekday = Tuesday");
       break;
     case 4:
       printf("weekday = Wednesday");
     case 5:
       printf("weekday = Thursday");
       break;
     case 6:
       printf("weekday = Friday");
       break;
     default:
       printf("Incorrect data");
  return 0;
int main() {
  int date, month, year;
  printf("\nEnter the year: ");
  scanf("%d", &year);
  printf("\nEnter the month: ");
  scanf("%d", &month);
  printf("\nEnter the date:");
  scanf("%d", &date);
  day of week(date, month, year);
system("pause");
```

```
return 0;
}
```

```
C:\Users\SANJAYA\Desktop\p.exe

Enter the year: 2015

Enter the month: 2

Enter the date:14

Date: 14/2/2015

weekday = SaturdayPress any key to continue . . .
```

### 44) Addition of Diagonal Elements in Matrix

```
#include<stdio.h>
int main() {
  int i, j, mat[10][10], row, col;
  int sum = 0;
  printf("\nEnter the number of Rows : ");
  scanf("%d", &row);
  printf("\nEnter the number of Columns : ");
  scanf("%d", &col);
  //Accept the Elements in m x n Matrix
  for (i = 0; i < row; i++)
     for (j = 0; j < col; j++)
{
       printf("\nEnter the Element a[%d][%d] : ", i, j);
       scanf("%d", &mat[i][j]);
     }
  //Addition of all Diagonal Elements
  for (i = 0; i < row; i++) {
     for (j = 0; j < col; j++) {
       if (i == j)
       sum = sum + mat[i][j];
  }
  printf("\nSum of Diagonal Elements in Matrix : %d\n", sum);
system("pause");
  return (0);
```

```
Enter the number of Rows : 2

Enter the number of Columns : 3

Enter the Element a[0][0] : 4

Enter the Element a[0][1] : 5

Enter the Element a[0][2] : 6

Enter the Element a[1][0] : -4

Enter the Element a[1][1] : 0

Enter the Element a[1][1] : 1

Sum of Diagonal Elements in Matrix : 4

Press any key to continue . . .
```

## 45)C Program to find whether the given character is Vowel or Consonant.

```
#include<stdio.h>
int main()
char ch;
printf("Enter a single character: ");
scanf("%c", &ch);
if((ch=='a')||(ch=='e')||(ch=='i')||(ch=='o')||(ch=='u')||(c
h=='A') | | (ch=='E') | | (ch=='I') | | (ch=='O') | | (ch=='U'))
 printf("The given Character '%c' is a Vowel\n\n ",ch);
}
else
 printf("The given Character '%c' is a Consonant\n\n ",ch);
system("pause");
return 0;
 C:\Users\SANJAYA\Desktop\Untitled25.exe
Enter a single character: a
The given Character 'a' is a Vowel
  Press any key to continue . . .
```

```
C:\Users\SANJAYA\Desktop\Untitled25.exe
Enter a single character: g
The given Character 'g' is a Consonant
Press any key to continue . . . _
```

#### 46)C program to add two numbers using pointers

```
#include <stdio.h>
int main()
{
  int first, second, *p, *q, sum;
  printf("Enter two integers to add: ");
  scanf("%d %d", &first, &second);

  p = &first;
  q = &second;
  sum = *p + *q;

  printf("Sum of entered numbers = %d\n", sum);
  system("pause");
  return 0;
}

C:\Users\SANJAYA\Desktop\Untitled25.exe
Foton two integers to add: 12
```

Enter two integers to add:8 12 Sum of entered numbers = 20 Press any key to continue . . .

#### 47)C program to concatenate strings

```
#include <stdio.h>
#include <string.h>
int main()
{
    char a[1000], b[1000];
    printf("Enter the first string=");
    gets(a);
    printf("Enter the second string=");
    gets(b);
    strcat(a,b);
    printf("String obtained on concatenation is %s\n",a);
    system("pause");
    return 0;
}
```

# C:\Users\SANJAYA\Desktop\Untitled25.exe Enter the first string=sanjaya Enter the second string=chauwal String obtained on concatenation is sanjayachauwal Press any key to continue . . . \_

#### 48)Linear search in C.

```
#include <stdio.h>
int main()
  int array[100], search, c, n;
  printf("Enter the number of elements in array=");
  scanf("%d", &n);
  printf("Enter %d integer(s)=\n",n);
  for (c = 0; c < n; c++)
     scanf("%d", &array[c]);
  printf("Enter the number to search\n");
  scanf("%d", &search);
  for (c = 0; c < n; c++)
     if (array[c] == search)
       printf("%d is present at location %d.\n", search, c+1);
       break;
  if (c == n)
     printf("%d is not present in array.\n", search);
system("pause");
  return 0;
```

# C:\Users\SANJAYA\Desktop\Untitled25.exe Enter the number of elements in array=7 Enter 7 integer(s)= 1 2 5 4 6 3 4 Enter the number to search 4 is present at location 4. Press any key to continue . . . .

#### 49)C program to print patterns of numbers and stars.

```
#include <stdio.h>
int main()
{
  int row,c,n,temp;
```

```
For Update :sanjayachauwal.wordpress.com
                                             Sanjaya chauwal
  printf("Enter the number of rows in pyramid of stars you wish
to see =");
  scanf("%d",&n);
  temp = n;
  for (row =1; row<= n; row++)
    for (c = 1 ; c < temp ; c++)
    printf(" ");
     temp--;
     for ( c = 1; c \le 2*row - 1; c++)
     printf("*");
     printf("\n");
  }
system("pause");
  return 0;
  C:\Users\SANJAYA\Desktop\Untitled25.exe
 Enter the number of rows in pyramid of stars you wish to see =10
        ×××
       XXXXX
 Press any key to continue . . .
50)C program to find frequency of characters in a string
#include <stdio.h>
#include <string.h>
int main()
  char string[100];
  int c = 0, count[26] = {0};
  printf("Enter a string\n");
  gets(string);
  while (string[c] != '\0')
     if (string[c] >= 'a' && string[c] <= 'z')
        count[string[c]-'a']++;
     C++;
  for (c = 0; c < 26; c++)
     if (count[c] != 0)
        printf("%c occurs %d times in the entered
string.\n",c+'a',count[c]);
system("pause");
C programming programs
                                            sanjaya chauwal
```

```
return 0;

C:\Users\SANJAYA\Desktop\Untitled25.exe

Enter a string
a d d a a s f g v x
a occurs 3 times in the entered string.
d occurs 2 times in the entered string.
f occurs 1 times in the entered string.
g occurs 1 times in the entered string.
s occurs 1 times in the entered string.
v occurs 1 times in the entered string.
v occurs 1 times in the entered string.
x occurs 1 times in the entered string.
Press any key to continue . . . .
```

## 51)WAP to find transpose of matrix, sum of matrix and its transpose and finally find it whether it is skew symmetric or not.

```
#include<stdio.h>
#include<conio.h>
int main()
  int m, n, c, d, matrix[10][10],
transpose[10][10], sum[10][10];
  printf("Enter the number of rows and columns of matrix = ");
  scanf("%d %d", &m, &n);
  printf("Enter the elements of matrix=\n");
  for (c = 0; c < m; c++)
     for (d=0; d< n; d++)
       scanf("%d", &matrix[c][d]);
      printf("\n\n");
printf("Matrix is\n\n");
for(c=0;c< m;c++)
for (d=0; d< n; d++)
printf("%d\t", matrix[c][d]); /* '\t' used for Tab */
printf("\n"); /* '\n' used for next line character */
  for (c=0; c< m; c++)
     for (d=0; d< n; d++)
       transpose[d][c]=matrix[c][d];
printf("After Transpose\n\n\n");
for (c=0 ; c< n ; c++)
```

```
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```

```
for (d=0 ; d < m ; d++)
printf("%d\t", transpose[c][d] );
printf("\n");
for(c=0;c< m;c++)
for (d=0 ; d< n ; d++)
sum[c][d]=matrix[c][d]+transpose[c][d];
printf("Sum of Matrix and its transpose= \n\n\n");
for(c=0;c< m;c++)
for (d=0;d<n;d++)
printf("%d\t", sum[c][d]);
printf("\n");
printf("\n");
if ( m == n ) /* check if order is same */
      for ( c = 0; c < m; c++)
         for (d = 0; d < m; d++)
             if ( matrix[c][d] !=transpose[c][d] )
              break;
         if (d!=m)
           break;
      if (c == m)
     printf("Skew-Symmetric matrix.\n\n");
  }
  else
     printf("Not a Skew-symmetric matrix.\n\n");
system("pause");
return 0;
```

#### 52) WAP to sort the names alphabetically in ascending order.

```
#include<stdio.h>
#include<string.h>
void main() {
  char s[100][50],t[1000],n;
  int i, j;
  printf("Enter total number of names = ");
  scanf("%d",&n);
  printf("\nEnter strings:\n");
  for (i = 0; i < n; i++)
     scanf("%s", s[i]);
  for (i =1; i <n; i++) {
     for (j = 1; j < n; j + +) {
       if (strcmp(s[j-1], s[j]) > 0) {
          strcpy(t, s[j-1]);
          strcpy(s[j - 1], s[j]);
          strcpy(s[j], t);
     }
  printf("\nStrings in order are : ");
  for (i =0; i<n; i++)
     printf("\ns",s[i]);
  getch();
}
```

```
C:\Users\SANJAYA\Desktop\Untitled12.exe
Enter total number of names = 8
Enter strings:
sanjaya
chauwa1
electrifying
sodium
chloride
bachelor
chemistry
engineeríng
Strings in order are :
bachelor
chauwal
chemistry
chloride
electrifying
engineering
sanjaya
sodium_
```

#### 53)C program to find the frequency of elements in array

```
#include<stdio.h>
int main()
   int n, t, i, j, arr[100],len, halflen,flag=0,count=0;
   printf("Enter number of elements to insert in an array:");
   scanf("%d", &len);
   printf("Enter elements to insert in an array:\n");
   for(i=0;i<len;i++){
      scanf("%d",&t);
      arr[i]=t;
   printf("\n");
      for(i=0;i<len;i++){
      count=1;
       for(j=i+1;j<=len-1;j++){
          if(arr[i] == arr[j] && arr[i]!='\0'){
             count++;
             arr[j]='\0';
          }
       }
      if(arr[i]!='\0'){
          printf("%d is repeated %d times.\n",arr[i],count);
   getch();
   return 0;
}
```

```
C:\Users\SANJAYA\Desktop\aa.exe

Enter number of elements to insert in an array:10
Enter elements to insert in an array:
1
2
3
2
1
3
4
1
2
3
1 is repeated 3 times.
2 is repeated 3 times.
3 is repeated 3 times.
4 is repeated 1 times.
```

#### 54)C code to print or display Upper triangular matrix.

```
#include<stdio.h>
int main()
 int a[3][3], i, j;
 float determinant=0;
 printf("Enter the 9 elements of matrix:\n");
 for (i=0; i<3; i++)
     for (j=0; j<3; j++)
     scanf("%d", &a[i][j]);
printf("\n");
 printf("\nThe matrix is\n");
 for (i=0; i<3; i++) {
     printf("\n");
     for (j=0; j<3; j++)
         printf("%d\t",a[i][j]);
  printf("\nSetting zero in upper triangular matrix=");
  printf("\n");
  for (i=0; i<3; i++) {
     printf("\n");
     for (j=0; j<3; j++)
          if(i<=j)
           printf("%d\t",a[i][j]);
           printf("%d\t",0);
printf("\n");
printf("\n");
system("pause");
  return 0;
```

```
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```

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55)To find the average and numbers greater than average and less than average between two input numbers in an array.

```
#include <stdio.h>
#include <stdlib.h>
int main()
long int ar[90000],n,i;
float avg, sum=0;
printf("Enter the size of the array=");
scanf("%ld",&n);
printf("\n");
printf("Enter the numbers in the array to find their
average=\n");
for(i=0;i<n;i++)
scanf("%d", &ar[i]);
sum=sum+ar[i];
}
avg=sum/n;
printf("\n");
printf("Average is %f\n",avg);
printf("\n");
printf("The numbers greater than the average are: \n");
for(i=1;i<n;i++)
if(ar[i]>avg)
printf("%d\n",ar[i]);
```

```
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printf("\n");
printf("\n");
printf("The numbers smaller than the average are: \n");
for(i=1;i<n;i++)
if(ar[i] < avg)</pre>
printf("%d\n",ar[i]);
printf("\n");
system("pause");
return(1);
  C:\Users\SANJAYA\Desktop\project5.exe
 Enter the size of the array=6
 Enter the numbers in the array to find their average=
 Average is 0.666667
 The numbers greater than the average are:
 The numbers smaller than the average are:
 Press any key to continue . . .
56)To calculate sum of money according to number and value of notes.
#include <stdio.h>
int main()
double X1, X2, X3, X4, X5, X6, X7, X8, X9, sum;
printf("This calculates total amount you entered according to
number and value of notes");
printf("\n");
printf("Enter number of Rs 1000, X1= ");
scanf("%Lf", &X1);
X1=X1*1000;
printf("\nEnter number of Rs 500, X2= ");
scanf("%Lf", &X2);
X2=X2*500;
printf("\nEnter number of Rs 100, X3= ");
                                 46th
C programming programs
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```

```
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                                                  Sanjaya chauwal
scanf("%Lf", &X3);
X3=X3*100;
printf("\nEnter number of Rs 50, X4= ");
scanf("%Lf", &X4);
X4 = X4 * 50;
printf("\nEnter number of Rs 25, X5= ");
scanf("%Lf", &X5);
X5=X5*25;
printf("\nEnter number of Rs 10, X6= ");
scanf("%Lf", &X6);
X6=X6*10;
printf("\nEnter number of Rs 5, X7= ");
scanf("%Lf", &X7);
X7 = X7 * 5;
printf("\nEnter number of Rs 2, X8= ");
scanf("%Lf", &X8);
X7 = X7 * 2;
printf("\nEnter number of Rs 1, X9= ");
scanf("%Lf", &X9);
X7 = X7 * 9;
sum=X1+X2+X3+X4+X5+X6+X7, X8, X9;
printf("\nTotal amount in rupees that Jaikishan owns is Rs
%Lf\n", sum);
scanf("%Lf", &sum);
return(1);
                                                              C:\Users\SANJAYA\Desktop\c\jaikishan.exe
This calculates total amount you entered according to number and value of notes
Enter number of Rs 1000,X1= 1101010
Enter number of Rs 500,X2= 11120
Enter number of Rs 100,X3= 1240
Enter number of Rs 50,X4= 1241329
Enter number of Rs 25,X5= 14571.5
Enter number of Rs 10,X6= 1450
Enter number of Rs 5,X7= 1245
Enter number of Rs 2,X8= 15
Enter number of Rs 1,X9= 124100
Total amount in rupees that Jaikishan owns is Rs 1169251287.500000
57)C program to find maximum element and minimum element in array
#include <stdio.h>
int main()
                                    47th
C programming programs
                                                  sanjaya chauwal
```

```
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  int array[100], maximum, size, c, location1 =
1, minimum, location2=1;
 printf("Enter the number of elements in array=");
 scanf("%d", &size);
 printf("\n");
 printf("Enter %d integers=\n", size);
 for (c = 0; c < size; c++)
 scanf("%d", &array[c]);
 maximum = array[0];
 for (c=1;c<size;c++)</pre>
   if (array[c] >maximum)
      maximum = array[c];
      location1 = c+1;
printf("\n");
 printf("Maximum element is present at location %d and it's
value is %d.\n", location1, maximum);
 minimum=array[-0];
  for (c=1; c<size; c++)
   if (array[c] < minimum)</pre>
      minimum =array[c];
      location2 = c+1;
}
printf("Minimum element is present at location %d and it's value
is %d.\n", location2, minimum);
 system("pause");
 return 0;
C:\Users\SANJAYA\Desktop\project5.exe
Enter the number of elements in array=7
Enter 7 integers=
 Maximum element is present at location 7 and it's value is 986.
Minimum element is present at location 1 and it's value is -44.
Press any key to continue . . . 🕳
                                 48th
                                             sanjaya chauwal
C programming programs
```

#### 58) FROM UPPERCASE TO LOWER CASE USING C PROGRAM.

```
#include<stdio.h>
#include<string.h>
int main(){
 char str[20];
 int i;
 printf("Enter any string(uppercase)=");
 scanf("%s", str);
 printf("\n");
 printf("The string is=%s",str);
 for (i=0; i \le strlen(str); i++) {
     if(str[i]>=65&&str[i]<=90)
      str[i]=str[i]+32;
 printf("\nThe string in lower case is=%s",str);
printf("\n");
 return 0;
C:\Users\SANJAYA\Desktop\project5.exe
Enter any string(uppercase)=SANJAYA
The string is=SANJAYA
The string in lower case is=sanjaya
Process returned 0 (0x0) execution time : 7.345 s
Press any key to continue.
```

### 59) Write a c program to convert the string from lower case to upper case.

```
#include<stdio.h>
#include <stdlib.h>
int main(){
char str[20];
int i;
printf("Enter any string=");
scanf("%s",str);
printf("\n");
printf("The string is=%s",str);
for (i=0; i \le strlen(str); i++) {
     if(str[i]>=97&&str[i]<=122)
   str[i]=str[i]-32;
    }
printf("\n");
printf("\nThe string in uppercase is=%s",str);
printf("\n");
system("pause");
```

```
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return 0;
C:\Users\SANJAYA\Desktop\project5.exe
Enter any string= chauwal
The string is=chauwal
The string in uppercase is=CHAUWAL
Press any key to continue . .
60) Fibonacci series in c by using recursion.
#include<stdio.h>
void printFibonacci(int);
int main(){
   int k,n;
    long int i=0, j=1, f;
   printf("Enter the range of the Fibonacci series: ");
   scanf("%d",&n);
  printf("\n");
   printf("Fibonacci Series:\n");
   printf("%d %d",0,1);
   printFibonacci(n);
 printf("\n");
   return 0;
void printFibonacci(int n)
static long int first=0, second=1, sum;
    if(n>0){
         sum = first + second;
         first = second;
         second = sum;
         printf("%ld ",sum);
         printFibonacci(n-1);
C:\Users\SANJAYA\Desktop\project5.exe
                                                                    _ 🗆 ×
Enter the range of the Fibonacci series: 23
Fibonacci Series:
Ø 11 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946 17711
28657 46368
Process returned 0 (0x0)
Press any key to continue.
                        execution time : 3.734 s
61)Number Pattern
#include <stdio.h>
int main()
    int i, j;
                                   50th
                                                 sanjaya chauwal
C programming programs
```

```
for(i=5;i>=1;i--)
{
    for(j=5;j>=i;j--)
    {
       printf("%d",j);
    }
    printf("\n\n");
}
system("pause");
    return 0;
}
```

```
5
54
543
5432
54321
```

#### 62) Number Pattern

```
#include <stdio.h>
int main()
{
    int i, j;
    for(i=1;i<=5;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("%d",i);
        }
        printf("\n\n");
    }
system("pause");
    return 0;
}</pre>
```

```
C:\Users\SANJAYA\Desktop\project5.exe

1

22

333

4444

55555

Press any key to continue . . .
```

#### 63) Number Pattern

```
int main()
    int i, j;
    for(i=1;i<=5;i++)
      for(j=5;j>i;j--)
       printf(" ");
      for(j=1;j<=i;j++)
         printf("%d ",j);
      for (j=j-2; j>=1; j--)
         printf("%d ",j);
     printf("\n");
    }
System("pause");
    return 0;
        \overline{\mathbf{1}}
      1 2 1
    1 2 3 2 1
  1 2 3 4 3 2 1
  2 3 4 5 4 3 2 1
 ress any key to continue . . .
```

#### 64) Number pattern:

```
int main()
{
    int i,j,k;
    for(i=5;i>=1;i--)
    {
        if(i%2==1) k=1;
        else k=i;
        for(j=1;j<=i;j++)
        {
            printf("%d",k);
            if(i%2==1) k++;
            else k--;
        }
        printf("\n\n");
    }
    system("pause");
    return 0;
}</pre>
```

```
C:\Users\SANJAYA\Desktop\project5.exe
12345
4321
123
21
Press any key to continue \dots
65)
#include<stdio.h>
int main()
  int i,j,k;
  for(i=1;i<=5;i++)
    for (j=5; j>=1; j--)
      if(j<=i)
       printf("%d",j);
      else
       printf(" ");
   printf("\n\n");
  system("pause");
  return 0;
C:\Users\SANJAYA\Desktop\project5.exe
   21
  321
 4321
54321
Press any key to continue \dots
66) Alphabet Patterns:
#include <stdio.h>
```

```
int main()
   int i, j;
   for(i=1;i<=5;i++)
```

```
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    {
       for(j=i;j<=5;j++)
           printf("%c", 'A'-1 + j);
       printf("\n\n");
system("pause");
   return 0;
C:\Users\SANJAYA\Desktop\project5.exe
ABCDE
BCDE
CDE
DE
Press any key to continue \dots
67)#include <stdio.h>
int main()
   int i, j;
   for(i=1;i<=5;i++)
       for(j=1;j<=i;j++)
           printf("%c",'A'-1 + i);
       printf("\n\n");
system("pause");
   return 0;
 C:\Users\SANJAYA\Desktop\project5.exe
 BB
 CCC
 DDDD
 BBBBB
 Press any key to continue . .
                                 54th
```

```
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68)
#include <stdio.h>
int main()
   int i, j;
   for(i=1;i<=5;i++)
       for(j=1;j<=i;j++)
          printf("%c",'A' + j-1);
       printf("\n\n");
system("pause");
   return 0;
C:\Users\SANJAYA\Desktop\project5.exe
ABC
ABCD
ABCDE
Press any key to continue . . .
69)C Program to Store Information of Single Variable
#include <stdio.h>
struct student{
   char name[50];
   int roll;
   float marks;
};
int main()
   struct student s;
   printf("Enter information of students:\n\n");
   printf("Enter name: ");
   scanf("%s",s.name);
   printf("Enter roll number: ");
   scanf("%d", &s.roll);
   printf("Enter marks: ");
   scanf("%f", &s.marks);
   printf("\nDisplaying Information\n");
```

55th

printf("Name: %s\n",s.name);
printf("Roll: %d\n",s.roll);

```
printf("Marks: %f\n",s.marks);
system("pause");
return 0;
}

Enter information of students:
Enter name: sanjaya
Enter roll number: 639
Enter marks: 90

Displaying Information
Name: sanjaya
Roll: 639
Marks: 90.000000
Press any key to continue . . . _
```

#### 70) Using structure:

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
struct details
char name[30];
int age;
float salary;
};
int main()
struct details detail;
printf("\nEnter name: ");
gets(detail.name);
printf("\nEnter age:");
scanf("%d", &detail.age);
printf("\nEnter Salary:");
scanf("%f", &detail.salary);
printf("\n\n\n");
printf("Name of the Employee : %s \n", detail.name);
printf("Age of the Employee : %d \n", detail.age);
printf("Salary of the Employee : %f \n", detail.salary);
getch();
```

```
C:\Users\SANJAYA\Desktop\project5.exe

Enter name: suman basel

Enter age:22

Enter Salary:200000

Name of the Employee : suman basel

Age of the Employee : 22

Salary of the Employee : 200000.000000
```