PERFORMANCE

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CCO PRACTICAL-01

Aim:- To study the use of different types of ~~database~~ types and I/O functions.

Source code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
  char name[100];
  char add[100];
  int rollno;
  float percent;
  char grade;
  long int mob;
  clrscr();
  Printf("Name of the student\n");
  Scanf("%s", &name);
  Printf("Address of the student\n");
  Scanf("%s", &add);
  Printf("Rollno of the student\n");
  Scanf("%d", &rollno);
  Printf("Percentage of student\n");
  Scanf("%f", &percent");
  Printf("Grade of student\n");
  Scanf("%s", &grade);
  Printf("mobile no\n");
```


Output:-

```
Name of the Student
Suraj
Address of the Student
vasai
Rollno of the Student
38
Percentage of the student
64.5
Grade of student
B
Mobile no
7756285191

Student name: Suraj
Student address: vasai
Student rollno: 38
Student percent: 64.5
Student grade: B
Student mobile no: 7756285191
```

```
Scanf("%d", &mob);
Printf("\n Student name: %s", name);
Printf("\n Student address: %s", add);
Printf("\n Student rollno: %d", rollno);
Printf("\n Student Percent: %f", Percent);
Printf("\n student grade: %c", grade);
Printf("\n Student mobile no: %d", mob);
 getch();
}
```

29/11/19

Write a program to find Avg of three numbers

```
#include<stdio.h>
#include<conio.h>
 void main()
 {
        float avg;
        float a,b,c;
        clrscr();
        printf("Enter 1st Number:");
        scanf("%f, &a);
        Printf("Enter 2nd Number:");
        Scanf("%f, &b);
        printf("Enter 3rd Number:");
        scanf("f, &c);
```

```
avg = (a+b+c)/3;
Printf("%f", avg);
getch();
}
```

Output:

Enter 1st Number: 7
Enter 2nd Number: 9
Enter 3rd Number: 8

18.666

Output:

Enter 1st No : 2

Enter 2nd No : 3

Addition is : 5

Subtraction is : -1

Multiplication is : 6

Division is : 1

a) AIM: Write a c program which will show the use of various different types of operators.

* Arithmetic Operators:-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n1, n2, add, sub, mul, div;
    clrscr();
    printf("Enter 1st No:");
    scanf("%d", &n1);
    printf("Enter 2nd No:");
    scanf("%d", &n2);
    add = n1+n2;
    Printf("Addition is : %d\n", add);
    sub= n1-n2;
    printf("Subtraction is : %d \n", sub);
    mul= n1*n2;
    Printf("Multiplication is : %d\n", mul);
    div = n1/n2;
    Printf("Division is : %d\n", div);
    getch();
}
```

* Logical Operators :

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int x, y, z, a1, a2, a3, a4, a5;
    clrscr();
    printf("Enter 1st value:");
    scanf("%d", &x);
    printf("Enter 2nd value:");
    scanf("%d", &y);
    printf("Enter 3rd value:");
    scanf("%d", &z);
    a1 = (x<y) && (z>y);
    printf("AND operation1:%d \n", a1);
    a2 = (x=y) && (z<y);
    printf("AND operation2:%d \n", a2);
    a3 = (x<y) || (z=y);
    printf("OR operation : %d \n", a3);
    a4 = !(x==y);
    printf("NOT operation : %d \n", a4);
    a5 = (x==y);
    printf("value is:%d \n", a5);
    getch();
}
```

Output :

```
Enter 1st value: 9
Enter 2nd value: 8
Enter 3rd value: 2

AND operation1: 0
AND operation2: 1
OR operation : 1
NOT operation : 0
value : 1
```

Output:-

Enter 1st Number : 20

Enter 2nd Number : 50

50

c] Ternary Operator:-

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a, b, c;
    clrscr();
    printf("Enter 1st Number:");
    scanf("%d", &a);
    printf("Enter 2nd Number:");
    scanf("%d", &b);
    c=(a>b)? a:b;
    printf("%d", c);
    getch();
}
```

17/01/2020

PRACTICAL-NO: 3

Topic:- Program's On Decision Statements:

1] Write a Program to Find odd and Even Number

* Algorithm:

Step 1: Take integer variable number

Step 2: Using user input, take the value from user

Step 3: Use the conditional statement.
if(num % 2 == 0) print even,
else print odd.

Step 4: Stop

* Source Code :- 1

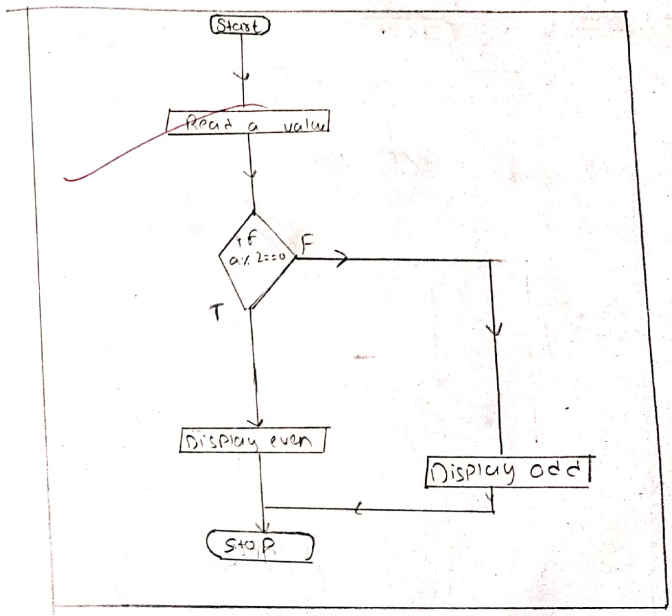
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a;
    clrscr();
    Printf("Enter the number:");
    scanf("%d", &a);
    if(a % 2 == 0)
        Printf("%d is an even number", a);
    else
```


Output 1:-

Enter the number :- 2
2 is an even number

Enter the number :- 3
3 is an odd number.

Flow chart:-



Sol:

Output: 2

Enter a Year to check Leap Year or not:

2018

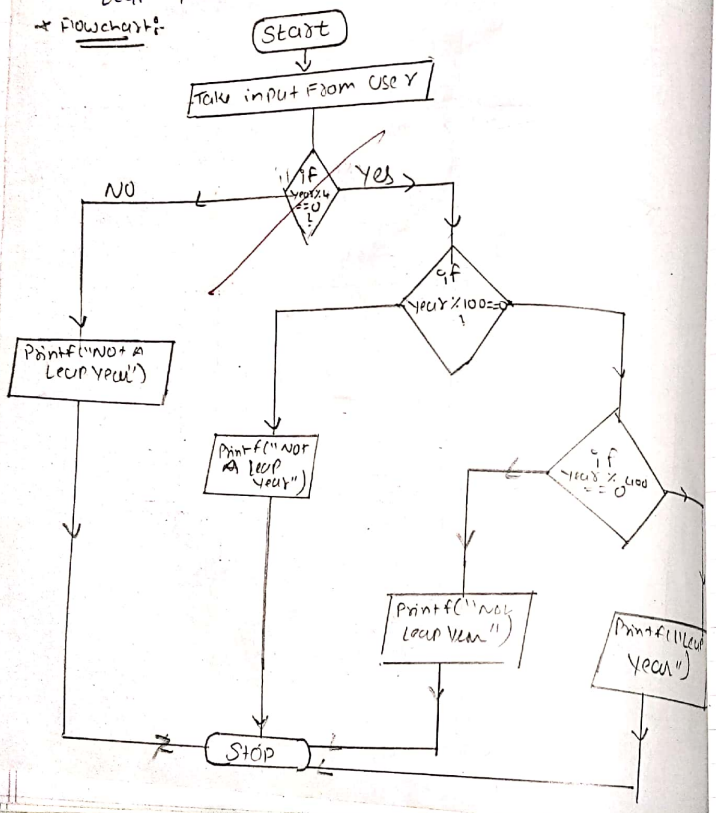
Not A Leap Year

1] Enter a Year to check Leap Year or not

2020

Leap Year

* Flowchart:-




```
        printf("%d is an odd number", a);
        getch();
}
```

2] Write a program to find entered year is leap year or not

* Alogrithm:-

Step 1: Start

Step 2: Take input from the user

Step 3: If year%.4 ==0 and year%.400==0 and year%.100==0 print leapyear, else print Not a leapyear.

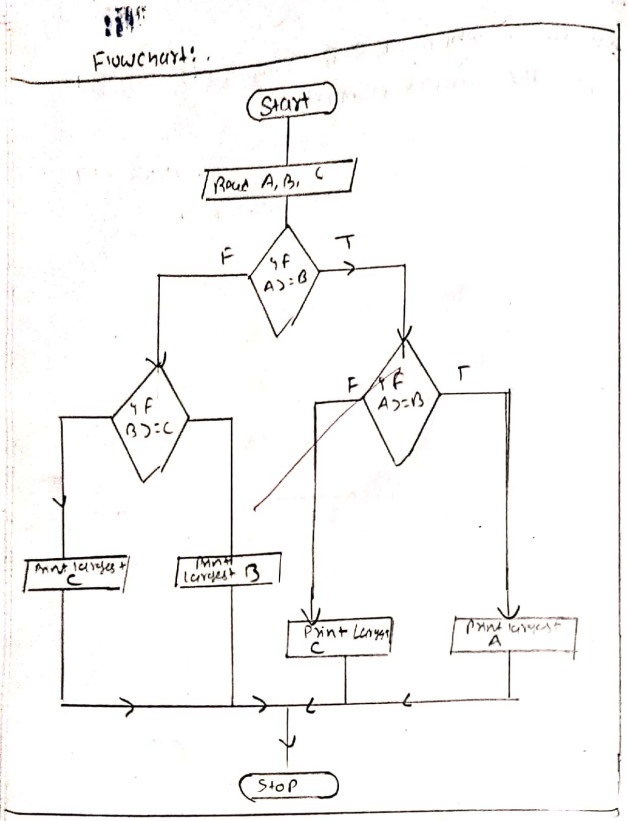
Step 4: Stop

* Source Code:-

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

```
printf("Enter a year to check leap year
        Or Not:");
scanf("%d", &year);
if(year % 4==0)
{
   if(year % 100==0)
   {
      if(year % 400==0)
      {
         printf("Leap year");
      }
      else
      {
         printf("Not A Leap Year");
      }
   }
   else
   {
      printf("Leap Year");
   }
}
  else
   {
      printf("Not a leap Year");
   }
getch();
}
```

Flowchart:



3] Write a Program to Find largest of three Numbers Using Nested if... else

* Algorithm:

Step 1: Take the three variables A, B, C

Step 2: Using user input, take the values from user

Step 3: Using nested if-else statement determine which is the largest number

Step 4: Print the largest number.

* Source Code:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int A, B, C;
    clrscr();
    printf("Enter three numbers");
    scanf("%d %d %d", &A, &B, &C);
    if (A >= B)
    {
        if (A >= C)
```

```
{
    Printf("%d is the largest number",A);
}
else
{
    Printf("%d is the largest number",C);
}
}
else
{
    if(B>=C)
    {
        Printf("%d is the largest number",B);
    }
    else
    {
        PPrint f("%d is the largest number",C);
    }
getch();
}
```

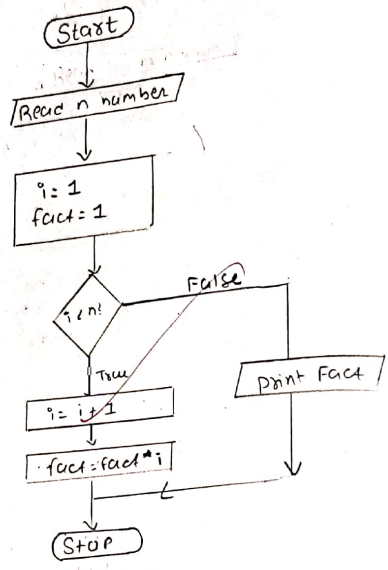
24/01/2020

Output :- 3

Enter the numbers : 9 8 7

9 is the largest number

Flowchart:- Factorial



Output :
Enter any number: 7
Factorial value of 7 is: 5040

PRACTICAL - 04

Aim:- Programs on Looping :

a] Write a C Program to find the Factorial value of a number.

Algorithm:- Factorial

Step 01 :- Start

Step 02 :- Read the number n

Step 03:- Initialize the value of i = 1, fact = 1

Step 04:- The value of i= fact = fact * i

Step 05 :- i = i + 1

Step 06 :- Print the factorial ~~number~~ value of given number

Step 07 :- Stop

Source Code:-

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int n, i, fact=1;
    printf("Enter any number:");
    scanf("%d", &n);
    for(i=1; i<=n; i++)
        fact= fact * i;
    Printf("Factorial value of %d = %d", n, fact);
    getch();
}
```

b] Write a C Program to find the Fibonacci Series of a number.

Algorithm:- Fibonacci

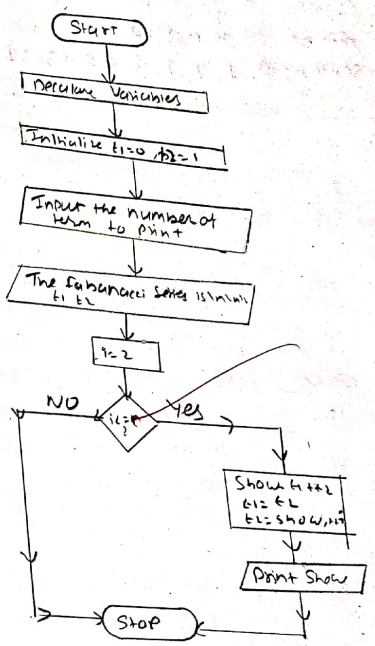
Step 01 : Start

Step 02 : Declare the variables from the user

Step 03 : Initialize the variables, t1=0, t2=1

Step 04 : Enter the number of terms of Fibonacci series to be printed

Flowchart : Fibonacci Series:



Output:
Enter the number of terms: 10
Fibonacci Series is: 0, 1, 1, 2, 3, 5, 8, 13, 22, 34

Step 05: Print the first terms of series

Step 06: Use the loop method for the following

Step 07: Stop

Source code:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int i, n, t1=0, t2=1, show;
    Printf("Enter the number of terms:");
    Scanf("%d", &n);
    Printf("Fibonacci Series is:");
    for(i=1; i<=n; ++i)
    {
     Printf("%d", t1);
     show = t1 + t2;
     t1 = t2;
     t2 = show;
    }
     getch();
}
```

c] Write a program to print odd numbers between 1 to 50 using do while loop.

Algorithm :-

Step 01 :- Start

Step02 :- Initilize the two variables a=50 and i=1

Step03 : Use do while loop for terms from 1 to 50

Step04 :- Use the if condition statement to check whether give number is even or odd.

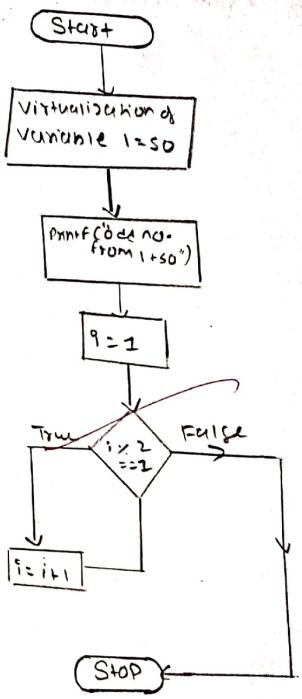
Step05 : Increment the value of i

Step 06 :- Display the output.

Step07 :- Stop.

Source code :-

Flow chart :-



Output:
The odd number from 1 to 50 is:

1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49


```
#include<Stdio.h>
#include<conio.h>
void main()
{
    int i, a=50
    clrscr();
    Printf("The odd number from 1 to 50 is:\n", a)
    i=1
    do
    {
        if(i%2==1)
        {
            Printf("%d\n", i)
        }
        i++;
    }
    while(i<=a);
    getch();
}
```

07/02/2020

~~Practi~~

PRACTICAL No: 05

Aim:- Programs on Arrays

1 Write a program to find the largest of three numbers in an array.

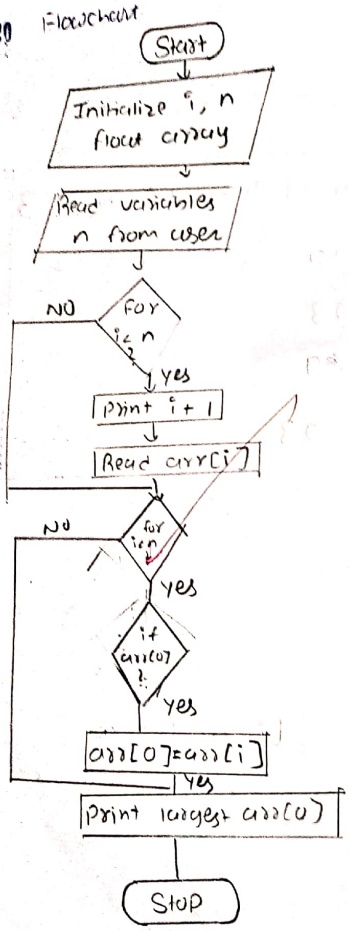
Source code:-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i, n;
    float arr[100];
    printf("Enter the number of element (1 to 100): ");
    scanf("%d", &n);
    for (i=0; i<n; ++i)
    {
      printf("Enter number %d.", i+1);
      scanf("%f", &arr[i]);
    }
    for (i=1; i<n; ++i)
    {
      if (arr[0] < arr[i])
        arr[0] = arr[i];
    }
      printf("Largest element = %.2f", arr[0]);
      getch();
}
```


Output :-

```
Enter the number of element (1 to 100): 3
Enter number1: 10
Enter number2: 23
Enter numbe : 9
Largest element: 23
```

Flowchart



Algorithm:-

Step 01: Start

Step 02: Declare the variables from the user, the corresponding libraries, in the void main.

Step 03: Print the required message to accept the number and assign it to the variable using ScanF

Step 04: Use the For loop to accept the number from the user.

Step 05: Again use the for loop, in that, if the first element is less than the i^{th} element of the array, assign in it to the first element.

Step 06: Now, print the largest element.

Step 07: Use the getch method

Step 08: Stop.

ii) Write a c program to represent a multidimensional array in matrix input

Source Code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a[50][50]
    int row, col, i, j;
    clrscr();
    Printf("Enter number of rows:");
    Scanf("%d", &row);
    Printf("Enter number of columns:");
    Scanf("%d", &col);
    for(i=0; i<row; i++)
    {
        for(j=0; j<col; j++)
        {
            Printf("Enter the a[%d][%d] no. element:",i,j);
            Scanf("%d", &a[i][j]);
        }
    }
    Printf("The displayed matrix is \n\n");
    for(i=0; i<row; i++)
    {
        for(j=0; j<0; j++)
```

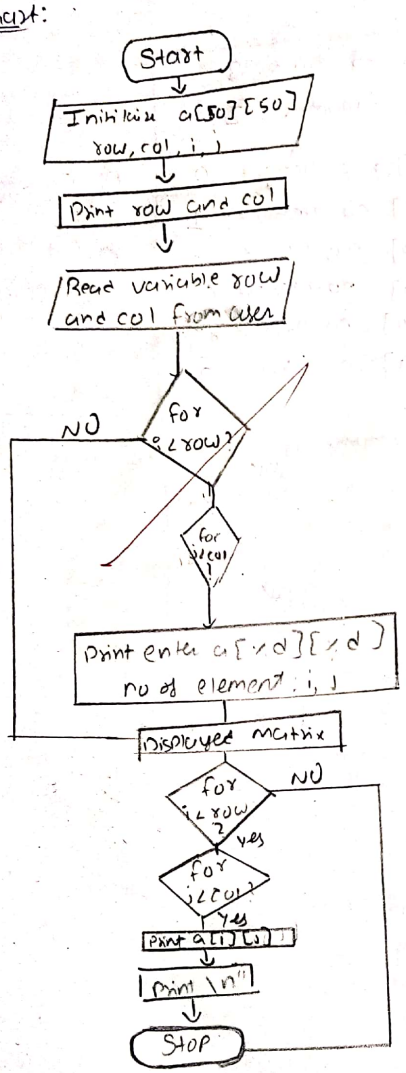

Output:-

```
Enter the number of rows: 3
Enter number of clowmns : 2
Enter the a[0][0] no. element: 0
Enter the a[0][1] no. element: 1
Enter the a[1][0] no. element: 2
Enter the a[1][1] no. element 6
Enter the a[2][0] no. element 8
Enter the a[2][1] no. element 5

The displayed matrix is

 0  1
 2  6
 8  5
```

Flowchart:




```
        {
            printf("\t %d", a[i][j]);
        }
        printf("\n");
    }
    getch();
}
```

Algorithm:

Step 01 :- Start.

Step 02 :- Declare multi-dimensional array and row, column, i & j

Step 03 :- Display to enter number of rows.

Step 04 : Scan the same

Step 05 : Do similarly for the columns.

Step 06 : Use the for conditional for accessing the array elements.

Step 07 : Use another for loop for displaying the array values

Step 08 : Stop.

iii] Write a C program to find Sum of elements of the array.

Source Code:

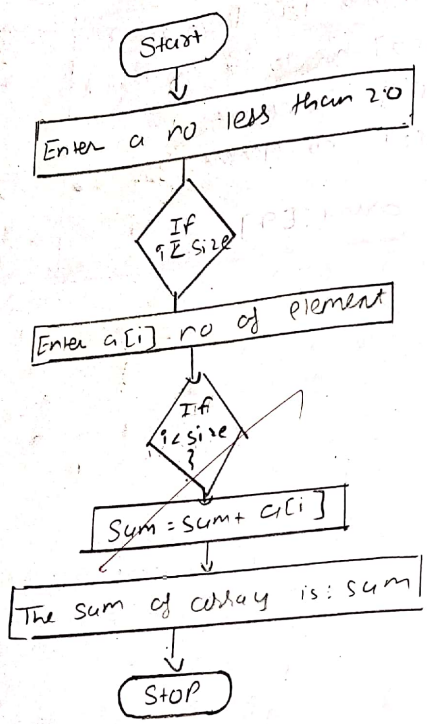
```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a[20];
    int sum=0, size,i;
    clrscr();
    printf("Enter number less than 20");
    scanf("%d", &size);
    for(i=0; i<size; i++)
    {
      sum = sum + a[i];
    }
    printf("sum of the array:[%d]", sum)
    getch();
}
```

Output:

```
Enter the numbers less than 20 3
Enter the a[0] no element : 5
Enter the a[1] no element : 1
Enter the a[2] no element : 3

The sum of array:[9]
```

Flowchart:



Algorithm:

Step 01: Start.

Step 02: Declare an array of integer type of user specified size.

Step 03: Initialize three variable one static type and two of dynamic type.

Step 04: Take range from the user that to be printed and odd, which should be less than specified size of an array.

Step 05: Use Nested for conditional loop for printing the elements in array ascending to its indexing.

Step 06: Adding the element of the array.

Step 07: Print the output.

Step 08: Stop

PRACTICAL - 06

Aim:- To Study Use of Function

A) Algorithm:-

Step 01: START

Step 02: Include the corresponding header Files. Declare the Function along with its arguments. In the main Function, declare required variables. Get the values for variables from the user. Add the both values of the variables and assign it to another variable.

Step 03: Now print the values before call. Make the Function call now. Print the values of the variables after the variables. Close the main Function

Step 04: Now define the body of the declared Function assign the values of variables while inside the Function, return the value of the result

Step 05:- Stop

Source Code:-


```
#include <stdio.h>
#include <conio.h>
int f1(int, int)
void main()
{
  int x, y, r;
  clrscr();
  printf("\nEnter the values of x:");
  scanf("%d", &x);
  printf("Enter the value value of y:");
  scanf("%d", &y);
  r = x+y;
  printf("\nBefore function call the numbers are:");
  printf("\nX=%d\t Y=%d \t R=%d", x, y, r);
  r=f1(x, y); printf("\n No.s after Function call:")
  printf("\nx=%d\t y=%d\t R=%d", x, y, r);
  getch();
}
int f1(int a, int b)
{
  int res;
  a = 20;
  b= 30;
  res = a+b;
```

Output:-

Enter the value of x: 11
Enter the value of Y: 12
Before Function call the numbers are:
x = 11 Y = 12 R = 23
Inside the Function
x = 20 Y = 30 R = 50
Nos after Function call:
x = 11 Y = 12 R = 50

B] Algorithm:-

Step 1: Start

Step 2: Import the corresponding header Files. In the main Function, declare two character array of size 50, ask user to input a string and a substring.

Step 3: Check whether the substring is found in the string. If the substring matches, Print string Found else substring not Found

Step 04: Stop

Source code:-

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
void main()
{
    char a[50];
    char b[50];
    clrscr();
    printf("\n Enter a string:");
    gets(a);
```

```
printf("\n Enter a substring to find the str
gets(b);
if (strstr(a,b)==NULL)
{
  printf("\n STRING NOT FOUND");
}
else
{
  printf("\n STRING FOUND");
}
 getch();
}
```

c] Algorithm :-

Step 01 :- Start

Step 02 : Take number input from the user

Step 03 : Define a function and use it for the logical part.

Step 04 : In a function run a while loop until the number is greater than ~~zero~~ zero

Step 05 : Add the number % 10 continously

Step 06 : Stop

OUTPUT :

Enter a String : Suraj Shukumar Anaikal 1738
Enter a substring to Find in the String : Suraj STRING FOUND.