

# Practical - 1

27

Aim : Programs to understand the basis of datatypes & I/O.

Source code :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int roll;
    char name [20];
    long int mob;
    float per;
    char grade;
    char add [50];

    clrscr();
    printf ("* * * * * Demonstration of datatype");
    printf ("\n Roll no. of the student : \n ");
    printf ("%d\n", roll);
    printf ("Enter the name of student : \n ");
    gets (name);
    scanf ("%s", &name);
    printf ("mobile no. of student : \n ");
    printf ("%ld", &mob);
    scanf ("%ld", &mob);
    printf ("Percentage of student : \n ");
    scanf ("%f", &per);
    scanf ("%f", &per);
```

# Output

\*\*\*\*\* Demonstration of Datatype \*\*\*\*\*

Roll no. of the student:

67  
Name of the student :

Sushant

Mobile no. of the student:

7045132908.

Percentage of the student:

74.

Grade of student:

A

Address of student:

Mumbai.

Q3

Printf (" Grade of student: \n ");  
scanf ("% C , & grade");  
printf (" Address of the student : \n ");  
scanf ("% C , & add );  
printf (" \n Name of student : % o S / \ n " , name);  
printf (" \n Roll no. of Student : % o d / \ n " , roll);  
printf (" \n mobile no. of Student : % o Id / \ n " , mob);  
printf (" \n Percentage of student: % o F E / \ n " , per);  
printf (" \n Grade of Student : % o S / \ n " , grade);  
printf (" \n add of Student : % o S / \ n " , add);  
getch();

Program 2:  
Source code:  
# include < stdio.h >  
# include < conio.h >  
void main ()  
{  
 float rad , area , pie = 3.14 ;  
 clrscr();  
 printf (" radius of circle : \n ");  
 scanf ("% f " , & rad);  
 area = pie \* rad \* rad;  
 printf (" Area of the circle : % o f / \ n " , area);  
}

Roll no. of student : 804 no

Name of student : B. Oliver

Native no. of student : 804 no. 0

Percentage of student : 80

Grade of student : A

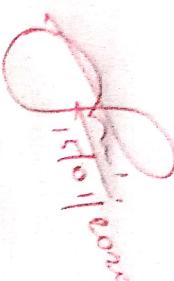
Passess of student : number

Subject:

Rating of the circle:

D+

Area of the circle:



00314

Ques : To write a C program which will show the use of various different types of operators

### # Arithmetic Operators

Source Code:

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

```
void main()
```

```
{
    int num1, num2, add, sub, mul, div;
    clrscr();
    printf("Enter 1st number : ");
    scanf("%d", &num1);
    printf("Enter 2nd number : ");
    scanf("%d", &num2);

    add = num1 + num2;
    printf("Addition of 2 numbers : %d \n", add);

    sub = num1 - num2;
    printf("Subtraction of 2 numbers : %d \n", sub);

    mul = num1 * num2;
    printf("Multiplication of 2 numbers : %d \n", mul);

    div = num1 / num2;
    printf("Division of 2 numbers : %d \n", div);
}
```

Output:

Enter 1<sup>st</sup> number : 6

Enter 2<sup>nd</sup> number : 3

Addition of 2 numbers : 9

~~Subtraction~~ Multiplication of 2 numbers : 18

Division of 2 numbers : 2

~~Subtraction of 2 numbers : 3~~

## # Logical Operators.

```
# include <stdio.h>
# include <conio.h>
void main ()
{
    int x,y,z,value1,value2,value3,
        value4, value5;
    clrscr();
    printf("Enter 1st value : ");
    scanf("%d", &x);
    printf("Enter 2nd value : ");
    scanf("%d", &y);
    printf("Enter 3rd value : ");
    scanf("%d", &z);
    value1 = (x < y) && (z > y);
    printf("Value1 is: %d \n", value1);
    value2 = (x = y) && (z < y);
    printf("Value2 is: %d \n", value2);
    value3 = (x < y) || (z = y);
    printf("Value3 is: %d \n", value3);
    value4 = !(x == y);
    printf("Value4 is: %d \n", value4);
    value5 = (x == y);
    printf("Value5 is: %d \n", value5);
}
```

## Output

Case 1st value = 2

Case 2nd value = 3

Case 3rd value = 4

Value 1st = 5

Value 2nd = 6

Value 3rd = 7

Value 4th = 8

Value 5th = 9

Value 6th = 10

Value 7th = 11

Value 8th = 12

Value 9th = 13

Value 10th = 14

Value 11th = 15

Value 12th = 16

Value 13th = 17

## Practical - 3

Aim : Decision Statements.

Write a program to find out odd & even numbers.

Algorithm :

Step 1 : Start.

Step 2 : [Take Input] Read a number from the user.

Step 3 : Check if number  $n \mod 2 == 0$  then

    Print even Number. or Print odd number.

Step 4 : Exit.

Source Code :

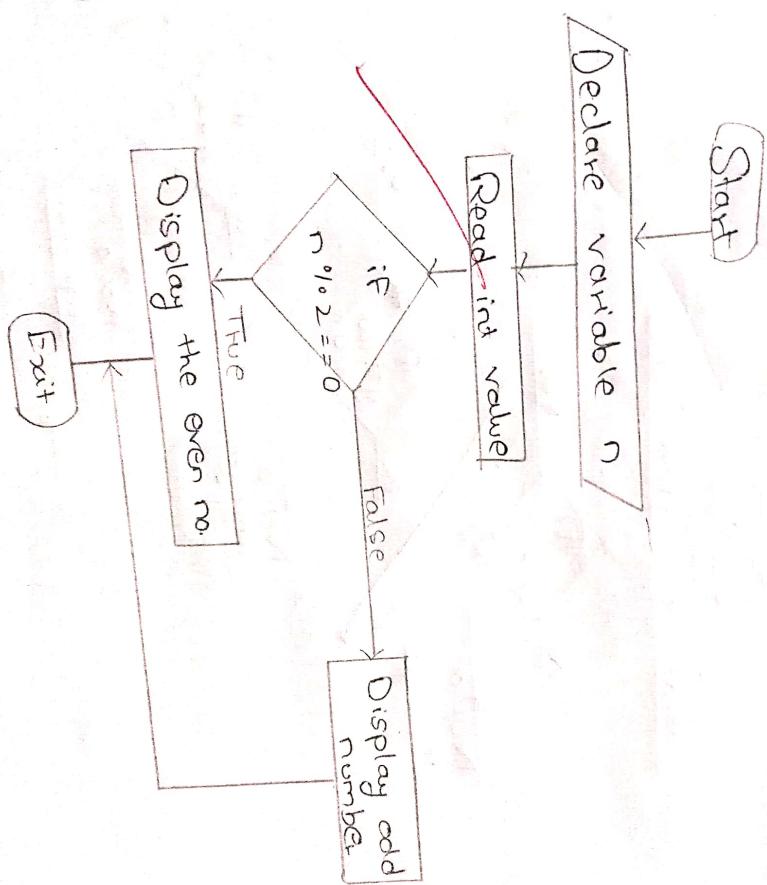
```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n;
    clrscr();
    printf("Enter a number:");
    scanf("%d", &n);
    if (n % 2 == 0)
    {
        printf("Even number!");
    }
}
```

Output:  
Enter a number : 28  
Even number.

32

Enter a number : 67.  
Odd number.

Flowchart :



### Output:

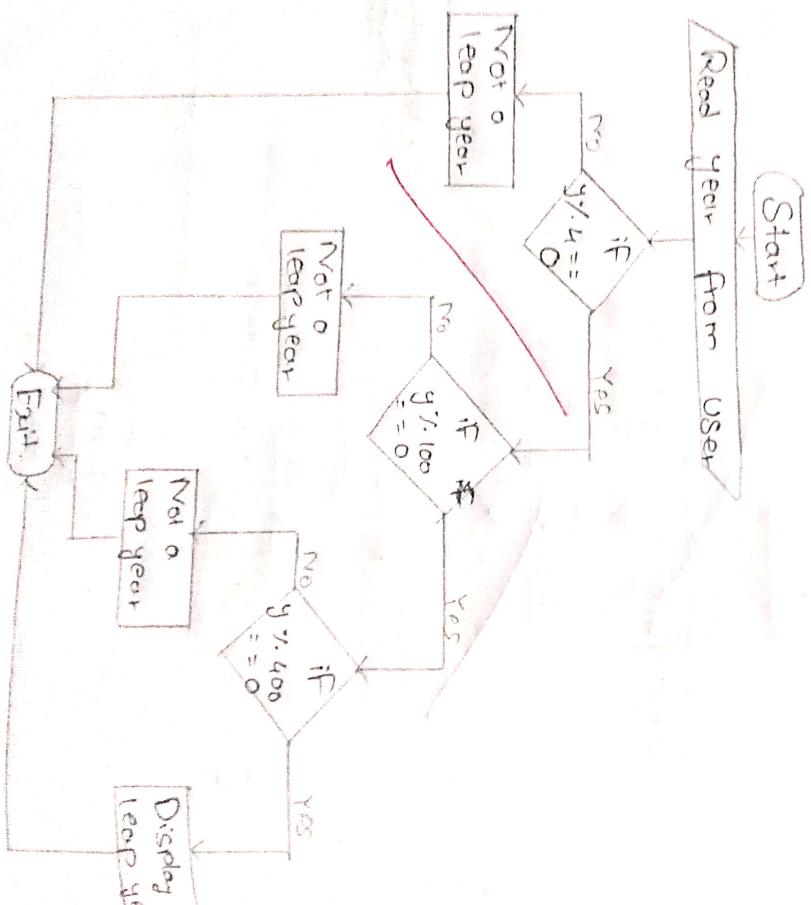
Enter a year : 2019

Not a leap year.

Enter a year : 2016

Leap Year.

### Flowchart:



```

} else
{
    printf (" Odd number : " );
}
getch ();
}

```

- WAP to find the entered year is a leap year or not.

### Algorithm:

Step 1: Start  
 Step 2: [Take Input] Read year from the user.

Step 3: IF year  $y \cdot 400 = 0$  OR  
 $y \cdot 100 \neq 0$  and year  $y \cdot 4 = 0$   
 Print "LEAP YEAR"  
 Else Print NOT A LEAP YEAR

Step 4: Exit.

### Source Code:

```

Source Code :
#include <iostream>
#include <conio.h>
{
int year;
clrscr();

```

```
printf ("Enter a year: ");
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 ("Not a leap year.");
}
else
    printf ("Not a leap year.");
getch();
```

Output:

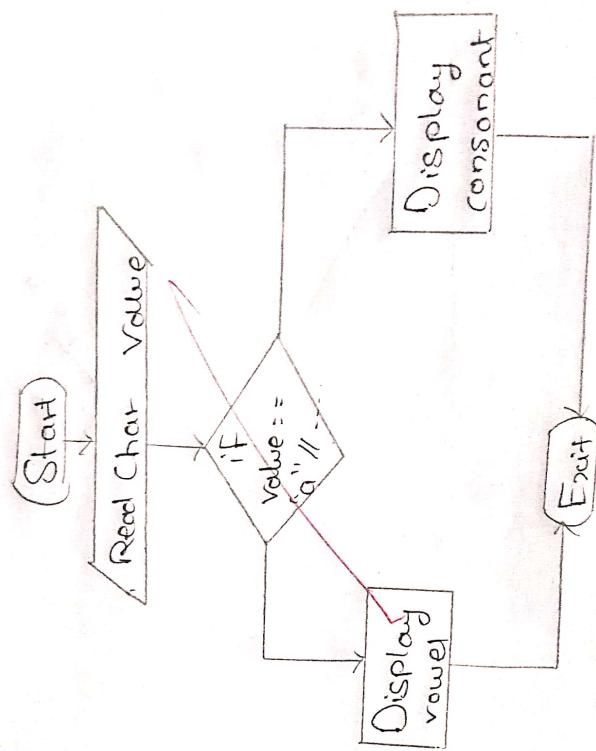
Enter a alphabet : O

vowel.

Enter a alphabet : x

Consonant.

Flowchart:



print ("Vowel");

```
(A, E, I, O, U)
```

Point C is after the alphabet 'o'.  
Point C is at  $10^{\circ}$ .

char o;

```
char o = 'o';
```

#include <stdio.h>

main()

```
char o;
```

o = 'o';

Value of 'o' is 97.  
Value of 'o' is 111.  
Value of 'o' is 111.  
Value of 'o' is 111.

Take two char variables value  
and value2.

char value;  
char value2;

value = 'o';

value2 = 'o';

Process to print both the  
variables is same as process  
to print both the characters.

most frequent

in the

water

## Ques:

Ques: What are the applications of  $\mu$ -cresol?

Ans:  $\mu$ -cresol is used as a solvent in the synthesis of organic compounds.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

$\mu$ -cresol is also used as a starting material for the synthesis of various pharmaceuticals and agrochemicals.

It is also used as a component in some types of adhesives and resins.

## Practical - 4

Ques :- Write a program to print even numbers between 1-50 using while loop.

Source code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i, n = 50;
    clrscr();
    printf("All even numbers from 1 to 50 are:
    ");
    for(i=2; i<=n; i+=2)
        printf("%d\n", i);
}
```

```
i = 2;
while (i <= n)
{
    printf("%d\n", i);
    i = i + 2;
}
getch();
```

### Algorithm:

Step 1 : Start.

Step 2 : Initialize two variable with static value  
where  $n = 50$  &  $i = 2$ .

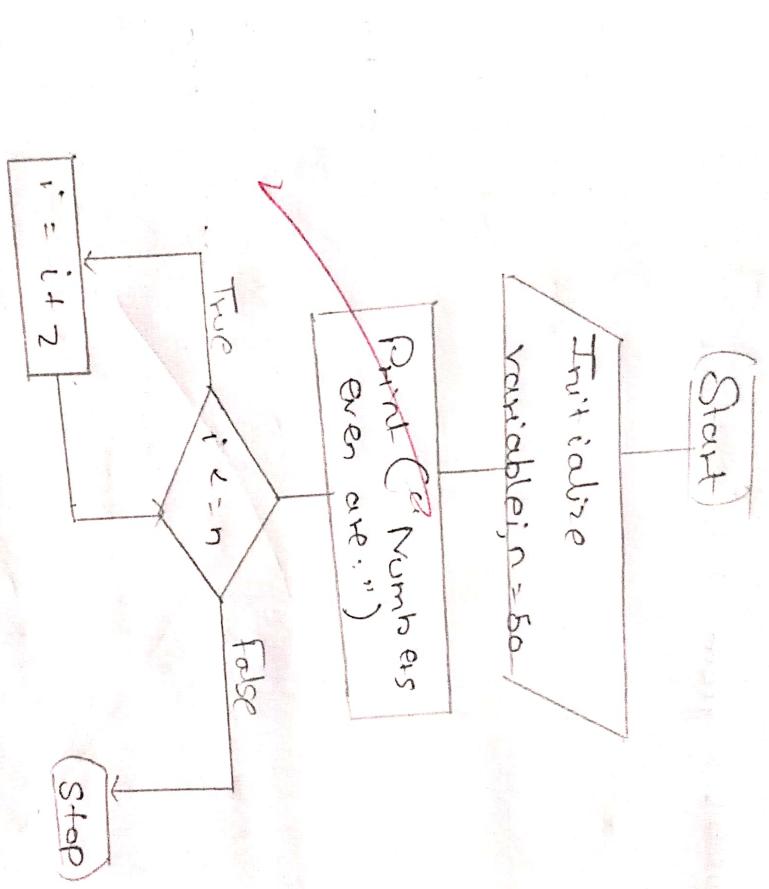
Step 3 : Use while loop for printing the even number  
upto the range 50

Step 4 : Adding 2 to current even number will give  
next even number.

Step 5 : Display the appropriate output.

Step 6 : Stop

flowchart:



Dipper

One million - Four - 6 days ago

100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

100% - 100% - 100%

2

b) write a C program to print odd number between 1-50 using do while loop.

Source code :

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

```
void main()
```

```
{ int i, n = 50;
```

```
char c;
```

~~printf (" Odd numbers from 1 to 50 are : ") ;~~

i = 1,

do

```
{ if (i % 2 == 0)
```

}

```
printf ("%d \n", i);
```

}

i++;

}

```
while (i <= n);
```

```
 getch();
```

3.

## Algorithm:

Step 1: Start

Step 2: Initialize two static variable  $n: 50, i=1$

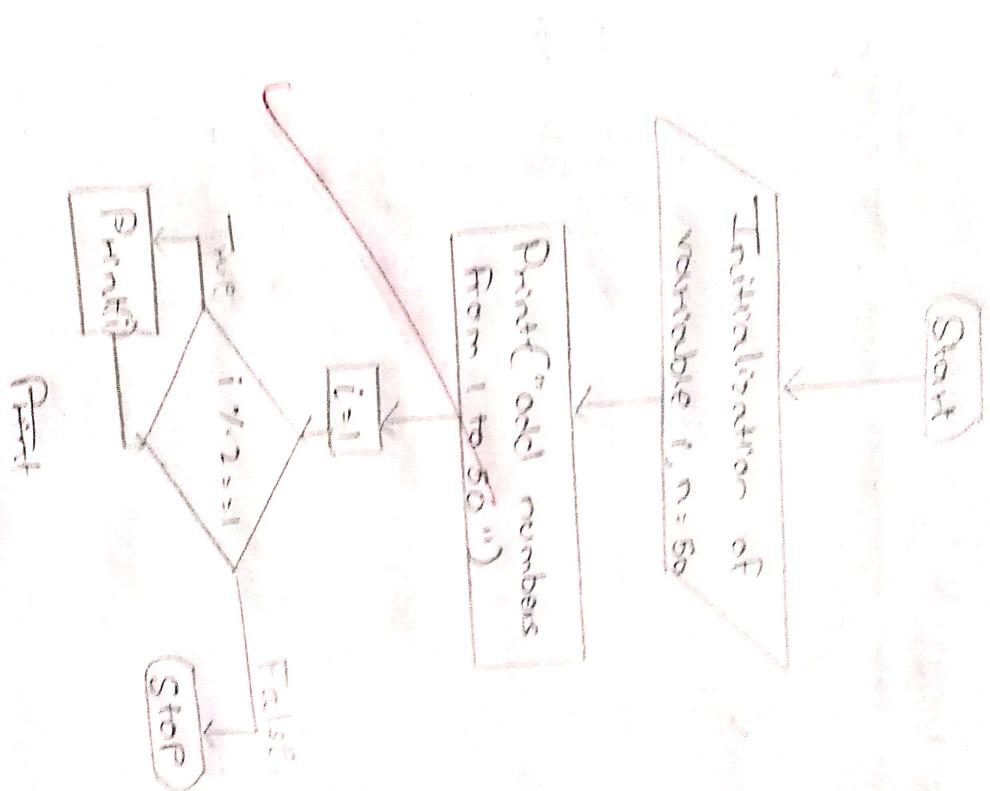
Step 3: Use do while loop iterate from 1 to 50

Step 4: Use if condition statement to check whether given number is even or odd.

Step 5: Increment the value of  $i$ .

Step 6: Display the appropriate output.

Step 7: Stop.





c) Aim: write a c program to print sum of all even number between n to m using for loop.

Source code:

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int i, n, sum = 0;
    clrscr();
    printf("Enter the range:");
    scanf("%d", &n);
    for (i = 2; i <= n, i = i + 2)
    {
        sum = sum + i;
    }
    printf("Sum of all even numbers upto the range are : ", sum);
    getch();
}
```

## Algorithm

### Steps

Step 1: Start.

Step 2: Initialize three variables from these two is static and one is dynamic  
 $i = 2$ ;  $j = \text{sum} = 0$ ;

Step 3: Use for loop for check the even num & print upto the given range.

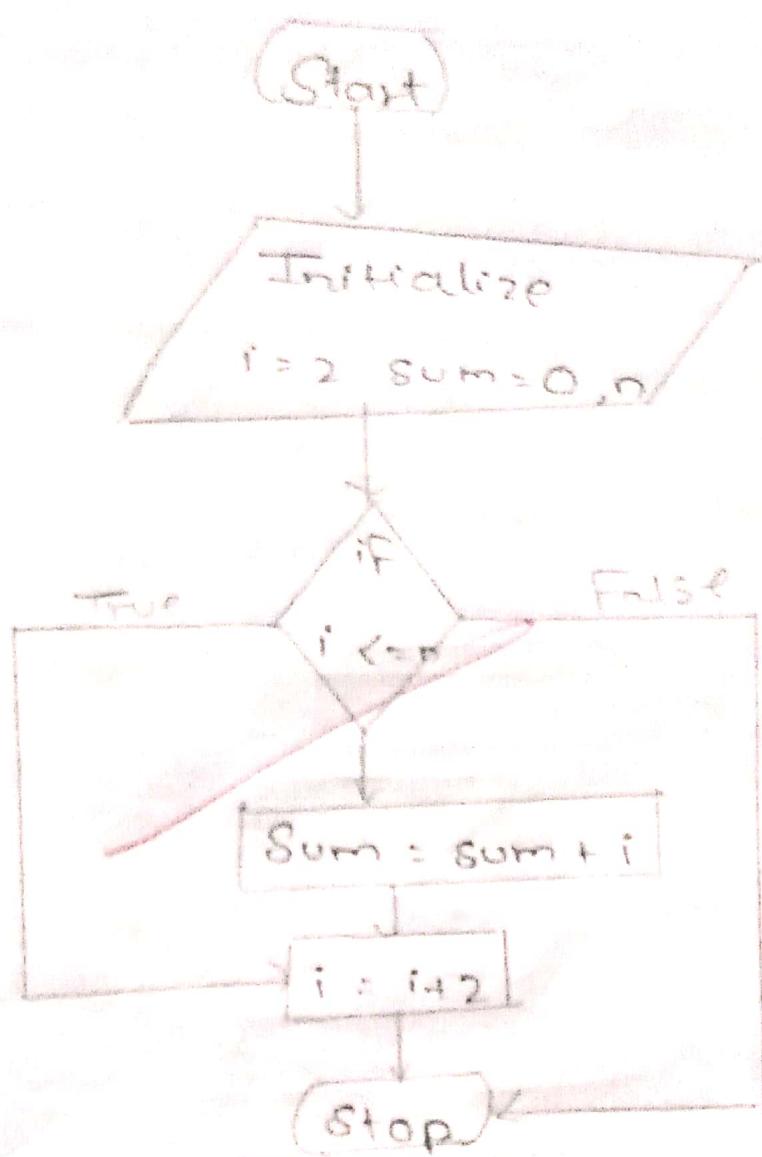
Step 4: Add current even number to sum.

Step 5: Display the appropriate output.

Step 6: Stop.

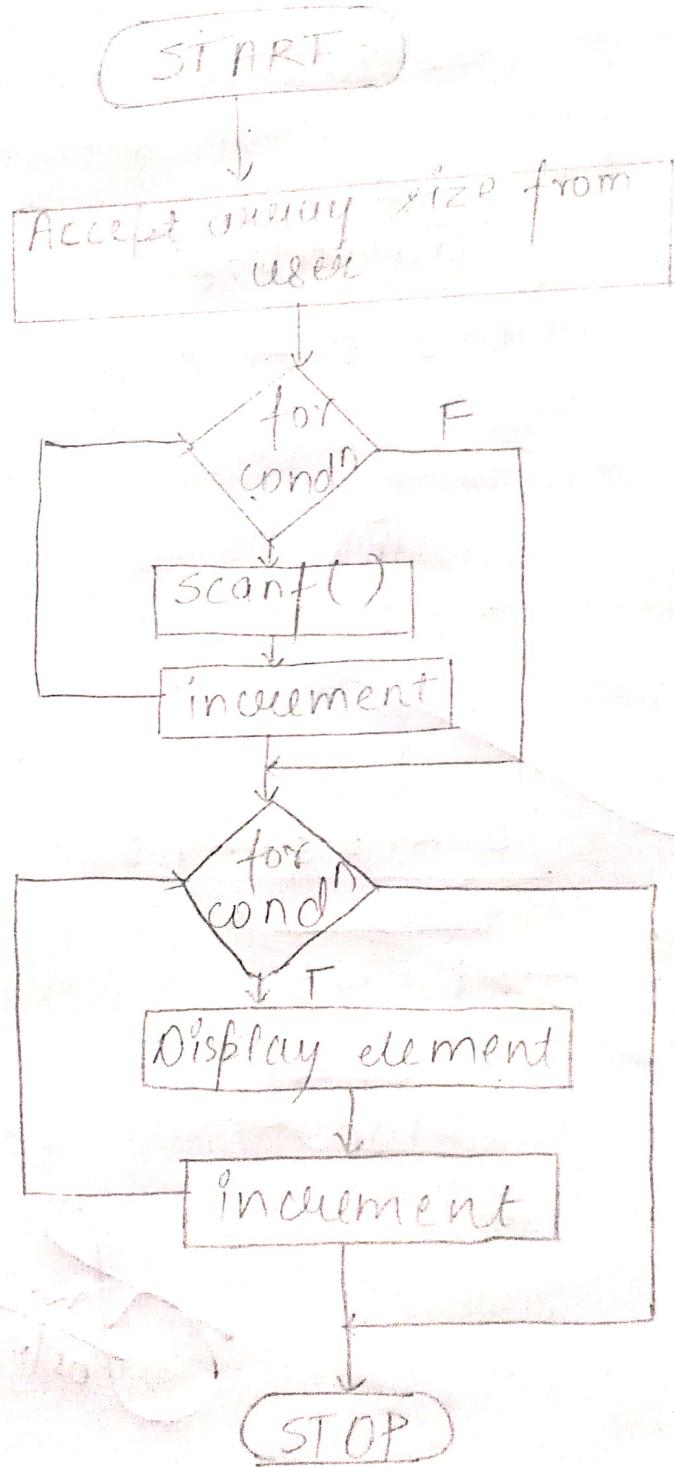
# Flowchart

42



*Suria  
05/02/2020*

## Flowchart :-



## Practical - 5

### Arrays.

Basics of Array:  
WAP in C to read array elements from the user and display them.

Algorithm:-

- Step 1 :- Declare a array of any size.
- Step 2 :- Accept the number of elements user want to enter in array.
- Step 3 :- Use for loop to accept the array elements from the user.
- Step 4 :- Again use for loop to display array elements.

## Source Code :

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int a[16], size, i;
    clrscr();
    printf ("Enter size of array you want");
    scanf ("%d", &size);
    for (i=0; i<size; i++)
    {
        printf ("\n Enter your value of a[");
        printf ("element : ", i);
        scanf ("%d", &a[i]);
    }
    printf ("\n The array elements are : ");
    for (i=0; i<size; i++)
    {
        printf ("\n a[%d] = ", i);
        printf ("%d", a[i]);
    }
    getch();
}
```

Output :

Enter the size of array you want : 5

Enter the value of a[0] element : 11.

Enter the value of a[1] element : 12.

Enter the value of a[2] element : 13

Enter the value of a[3] element : 14.

Enter the value of a[4] element : 15.

The elements of array are :

$$a[0] = 11$$

$$a[1] = 12$$

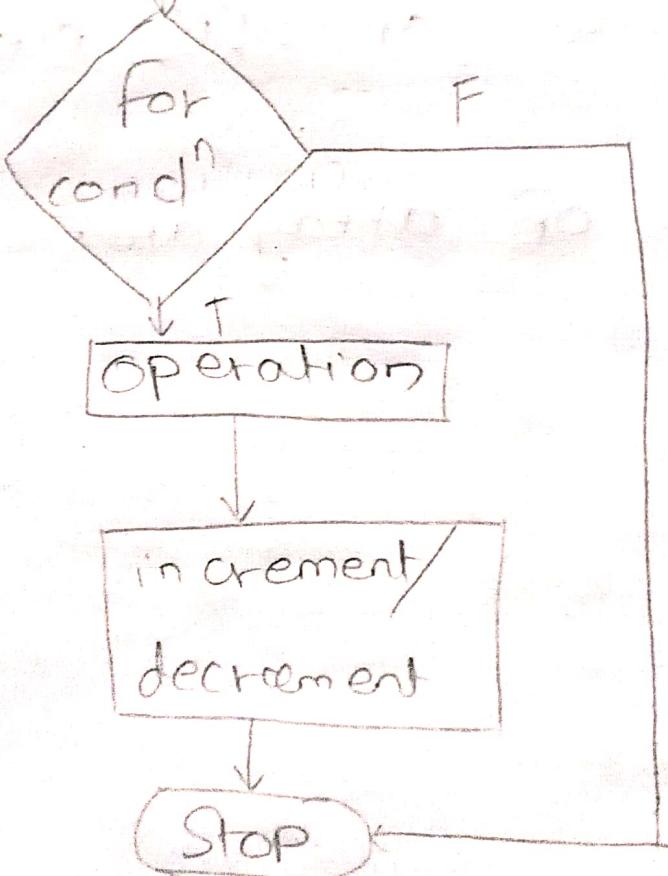
$$a[2] = 13$$

$$a[3] = 14$$

$$a[4] = 15$$

Start

$a[0] = 0$   
 $a[1] = 1$



# Fibonacci Series using Array.

Write a program in C to develop Fibonacci series using array.

Algorithm:-

Step 1:- Declare a array of anysize of data.  
type int.

Step 2:- Accept a value from user till you want to display the Fibonacci series.

Step 3:- Initialise first element of array to 0 and second element to 1 as series starts from 0 and 1.

Step 4:- Use for loop to develop Fibonacci series.

Step 5:- Display the series using printf() function.

## Source Code

```
#include <iostream>
#include <cmath>
using namespace std;
```

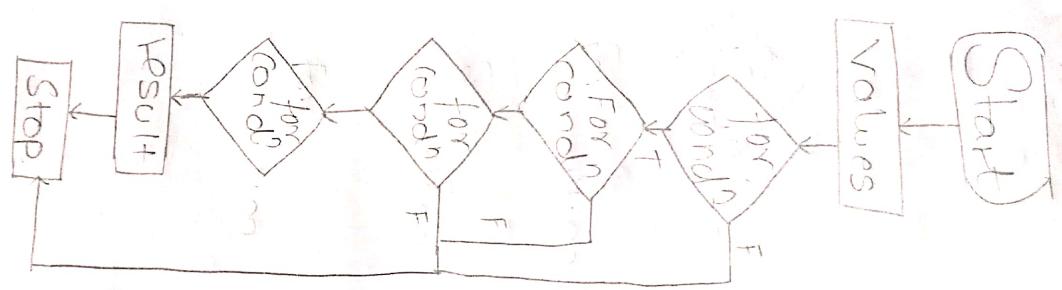
```
int a[100], term, n, i, j;
char op, s;
cout << "Enter the no. of terms : ";
cin << n;
cout << "Enter (+ or -) : ";
cin << op;
cout << "Enter first term : ";
cin << a[0];
for (i = 1; i < n; i++) {
    cout << "Enter next term : ";
    cin << a[i];
    if (op == '+')
        a[i] = a[i - 1] + a[i - 2];
    else
        a[i] = a[i - 1] - a[i - 2];
}
```

```
cout << "The series is : ";
for (i = 0; i < n; i++)
    cout << a[i] << " ";
cout << endl;
```

Output:

Enter the number of terms : 7 46

0  
1  
2  
3  
5  
8



## Multidimensional Array

47

WAP to a program to accept rows and columns value from user and display them in matrix format.

Algorithm :-

Step 1 :- Declare a multidimensional array with any size.

Step 2 :- Accept the value of rows and columns from user want to create.

Step 3 :- Use 2 for loops, for accepting the value of elements of array using scanf().

Step 4 :- Again use 2 for loops to display the elements of rows and column accordingly using printf()

## Source Code:

```
#include <conio.h>
#include <stdio.h>
Void main()
{
    int a[10][10], row, col, i, j;
    clrscr();
    printf("Enter the number of rows:");
    scanf("%d", &row);
    printf("\nEnter the number of columns:");
    scanf("%d", &col);
    for (i=0; i<row; i++)
    {
        for (j=0; j<col; j++)
        {
            printf("\nEnter the element : ", i, j);
            scanf("%d", &a[i][j]);
        }
    }
    printf("\n\nThe Displayed Matrix is :\n");
    for (i=0; i<row; i++)
    {
        for (j=0; j<col; j++)
        {
            printf("%d ", a[i][j]);
        }
        printf("\n");
    }
}
```

Output:

48

Enter the number of rows : 2

Enter the number of columns : 2

Enter the a[0][0] element : 5

Enter the a[0][1] element : 6

Enter the a[1][0] element : 7

Enter the a[1][1] element : 8

The displayed matrix is :

5  
6  
7  
8

四

J  
geten C);

13

卷之三

卷之三

## Practical - 6.

51

### Functions:

Aim :- To accept a number from user and find factorial.

Algorithm:-

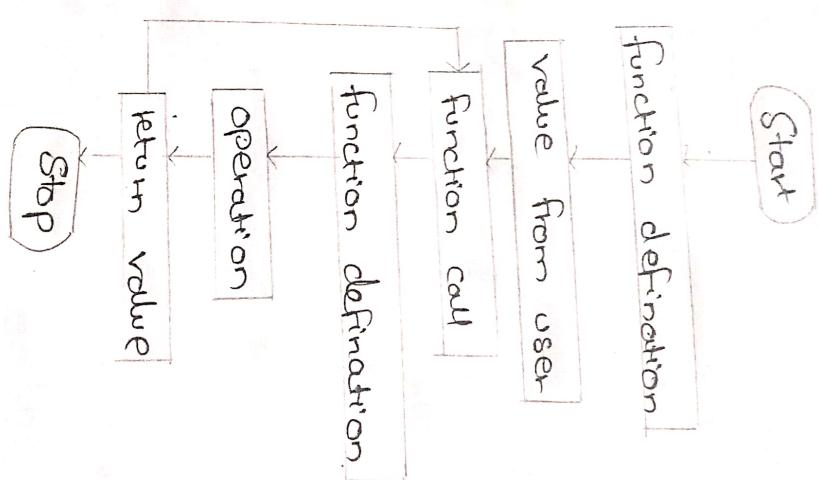
Step 1:- Declare a function which will accept one argument as number

Step 2:- Accept a number from user to factorial of it.

Step 3:- Call the declared function or defined function and press the input entered by user using function name

Step 4:- Define the declared function and use for loop to calculate factorial of entered number and return the result to the function call statement using return function.

Flowchart:



## Chap 7

Program to calculate factorial of a number.

With parameter n to find

Output will display the result in  
the form given using printf

Source code

```
#include <conio.h>
#include <stdio.h>
int fact(int n);
main()
{
    int num, cou;
    clrscr();
    printf("Enter a number (you feed out");
    scanf("%d", &num);
    cou = fact(num);
    getch();
}
```

Aug

Take a vacation you want to have  
planned it & go

The Festival at the Park