

Degree College
Computer Journal
CERTIFICATE

SEMESTER II UID No. 1

Class F.Y.BSC CS Roll No. 1753 Year 2015 - 16

This is to certify that the work entered in this journal
is the work of Mst. / Ms. Mishra Onwhele Abhy

who has worked for the year 2015 - 16 in the Computer
Laboratory.

Teacher In-Charge

Head of Department

Date : _____

Examiner

★ ★ INDEX ★ ★

Output:

***** demonstration of various
Name of the student: ~~Anushka~~ Anushka Mishra

Address of the student: Mumbai

Roll no. of the student: 1753

Percentage of the student: 70 %

Grade of the student: A

Mobile no. of the student: 87*****

Student name: Anushka Mishra

Student address: Mumbai

Student roll no. 1753

Student percent: 70 %

Student grade: A

Student mobile no: 7780640534

datatypes****

Mishra

Ques: Programs to understand the basic data type
and I/O

Program 1:

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    char name[50];
    char add[50];
    int roll_no;
    float percent;
    char grade;
    char mob[10];
    clrscr();
    printf ("* * * * * demonstration of various
    datatypes * * * * *");
    printf ("\n Name of the student : ");
    gets(name);
    printf ("\n Address of the student : ");
    scanf ("%s", &add);
    printf ("\n Roll no of student : ");
    scanf ("%d", &roll_no);
    printf ("\n Percentage of student : ");
    scanf ("%f", &percent);
    printf ("\n grade of student : ");
    scanf ("%s", &grade);
}
```

```
printf("In mobile no : ");
scanf("%d", &mob);
printf("In student name : %.5s", name);
printf("In student address : %.5s", add);
printf("In student roll no : %d", rollno);
printf("In student percent : %.f", percent);
printf("In student grade : %.c", grade);
printf("In student mobile-no : %.10s", mob);
getch();
```

Program : 2
Source code

```
#include <stdio.h>
#include <conio.h>
void main()
{
```

```
    int side, area;
    clrscr();
    printf("Enter the side\n");
    scanf("%d", &side);
    area = side * side;
    printf("The area of square is %.d", area);
    getch();
```

Output the side is
Enter of a sequence : 25
area

28

25
20/11/2020

Output

Enter 1st number : 8
Enter 2nd number : 2

Addition of 2 numbers : 10
Subtraction of 2 numbers : 6
Multiplication of 2 numbers : 16
Division of 2 numbers : 4

Practical - 2

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i) 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 , %d", div);
```

```

# 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("Value 1 is : %d \n", value1);
    value2 = (x == y) && (z < y);
    printf("Value 2 is : %d \n", value2);
    value3 = (x < y) || (z == y);
    printf("Value 3 is : %d \n", value3);
    value4 = !(x == y);
    printf("Value 4 is : %d \n", value4);
    value5 = (x == y) || (z != y);
    printf("Value 5 is : %d \n", value5);
    getch();
}

```

y

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Output:
Enter 1st value : 9
Enter 2nd value : 8
Enter 3rd value : 2
~~value 1 is : 0~~
~~value 2 is : 1~~
~~value 3 is : 1~~
~~value 4 is : 0~~
~~value 5 is : 1~~

Befür:

The biggest number is 10²

Ternary operator

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a=100, b=20, c=50, big;
    clrscr();
    big = a>b ? a : b;
    printf("The biggest number is : %.d", big);
    getch();
}
```

Practical 3

Ques: Program on decision statement

- 1) Write a program to find odd and even number.

Algorithm:

Step 1 : start
Step 2 : Take input / Read a number from user
Step 3 : Check if $n \% 2 == 0$ then print "Even number"
else print "odd number".
Step 4 : Exit

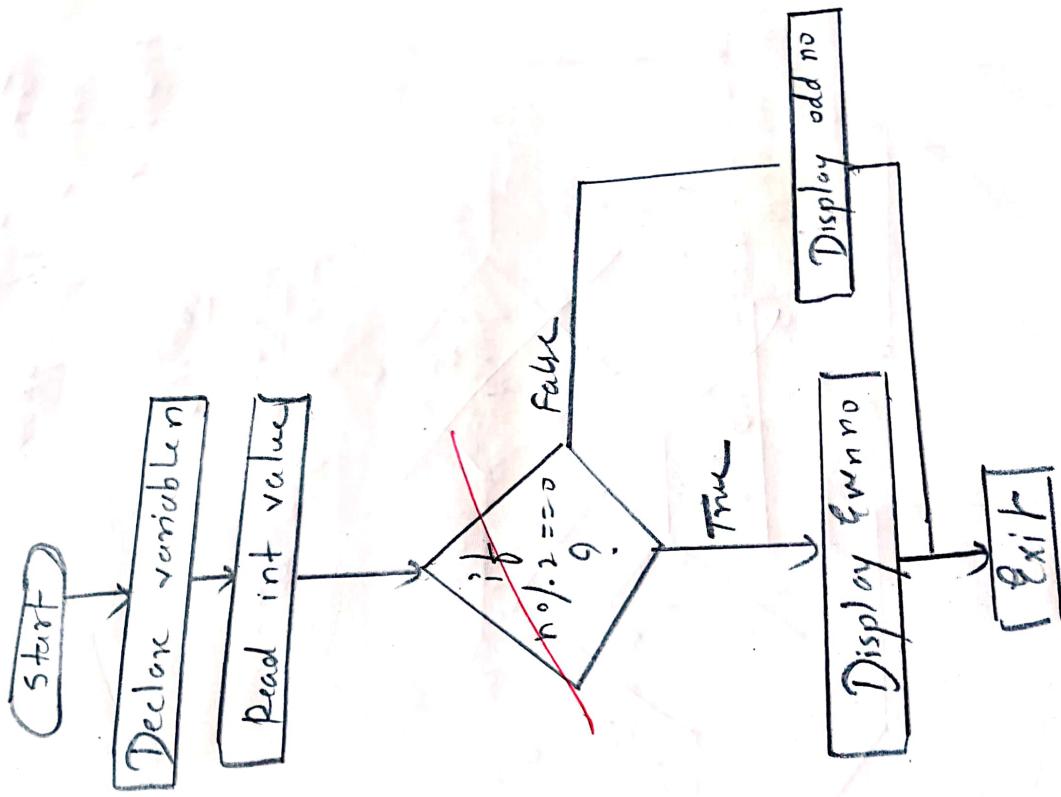
Program :

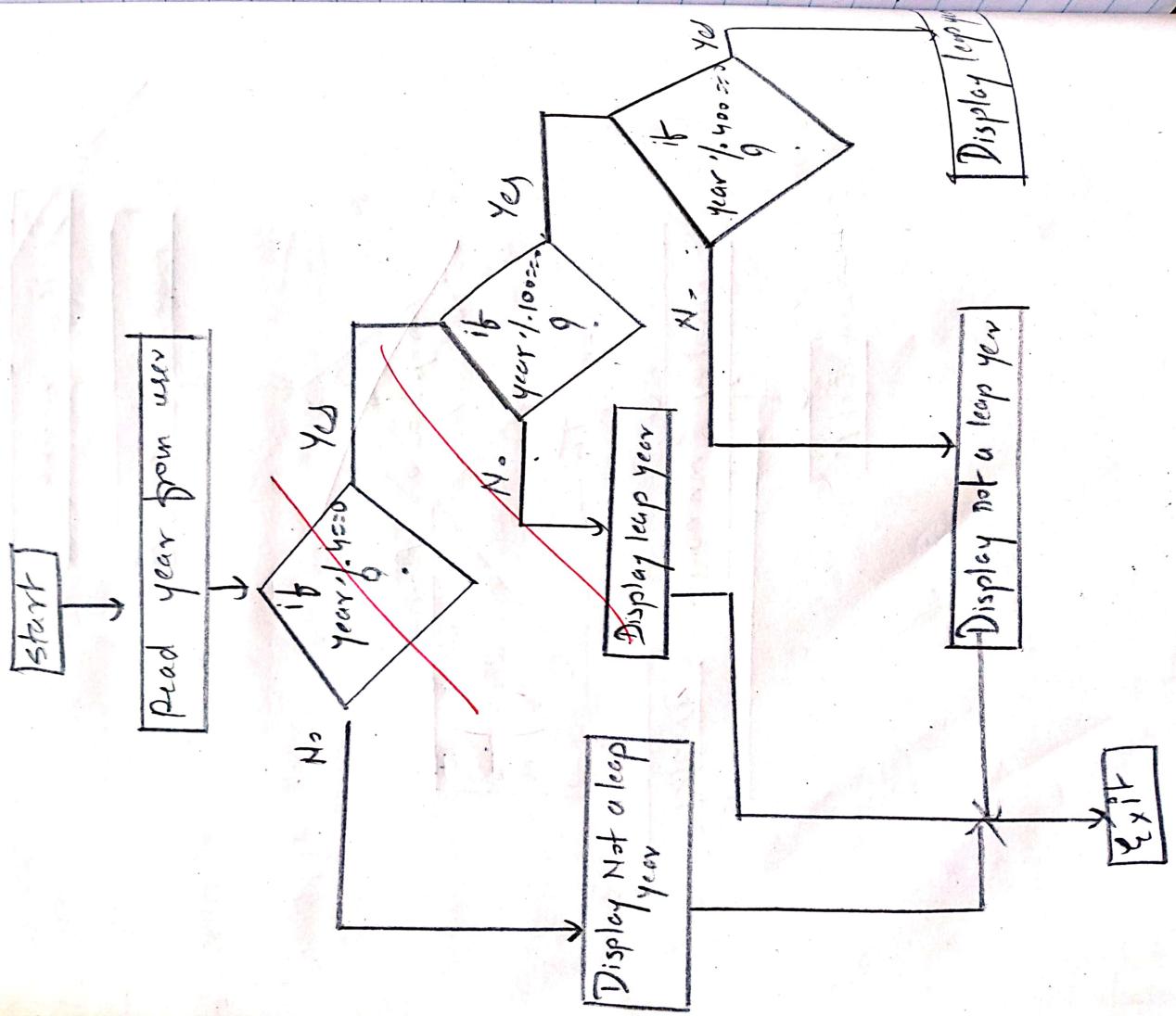
```
#include<stdio.h>
#include<conio.h>
Void main()
```

```
{ int n;
clrscr();
printf("Enter a number:");
scanf("%d", &n);
if (n % 2 == 0)
    print ("Even number");
else
```

Output :
Enter a number : 4
Even number
Now short :

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Flowchart:

- work done o not
 else = work o not
 output

```

    {
        cout << "Print ("odd number");
        getch();
    }

```

Q) Write a program to find the entered year is leap year or not.

Algorithm:

Step 1: Start
 Step 2: [Take input] Read year from user
 Step 3: if year $\% 4 == 0$ and year $\% 100 == 0$ OK
 year $\% 4 == 0$ and year $\% 100 != 0$
 Print "Leap year"
 else print "Not a Leap year"
 Step 4: Exit.

Program :

```

#include < stdio.h>
#include <conio.h>
void main()
{

```

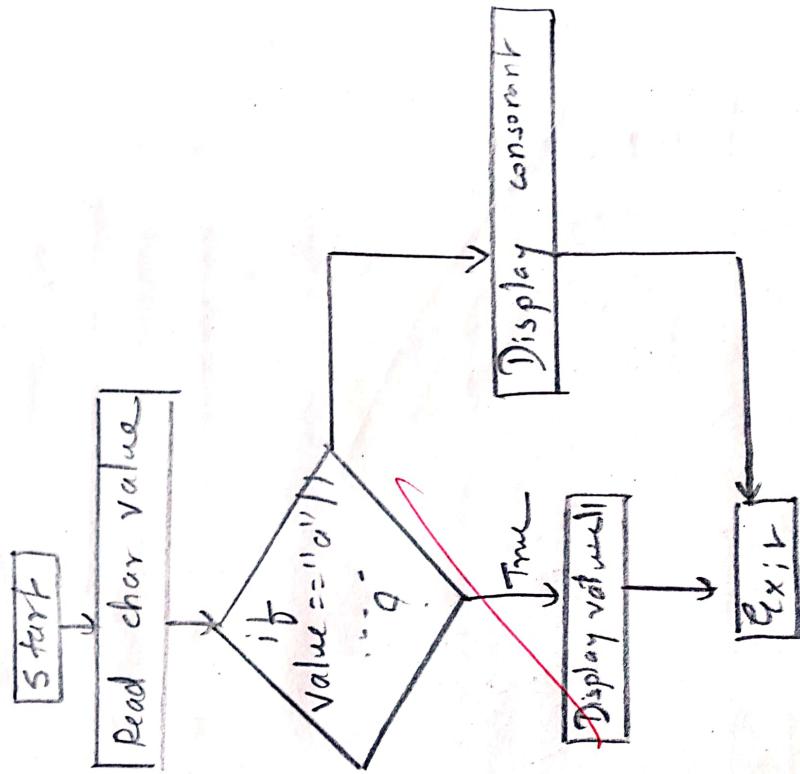
```

    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 the alphabet :- D
Name : 1
Flowchart :



39) Write a program to find whether the entered character is vowel or constant:
Algorithm:

Step 1 : Start

Step 2 : Take input from user.

Step 3 : [check] if value == 'a' || value == 'e' || value == 'i' ||

value == 'o' || value == 'u' ||

value == 'A' || value == 'E' ||

value == 'I' || value == 'O' ||

value == 'U' || value == 'U'

Point to "vowel"
else print "constant"

Step 4 : Exit .

Program:
#include <iostream.h>
#include <conio.h>
void main()
{

char a ;
clrscr();
cout << "Enter the alphabet : " ;
cin << a ;
if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u')
cout << "Vowel" ;
else
cout << "Constant" ;

```
148
{
    printf ("variable");
}
else
{
    printf ("constant");
}
getch();
```

Output:
All even numbers from 1 to 50 are:

2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50

Practical: 4

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

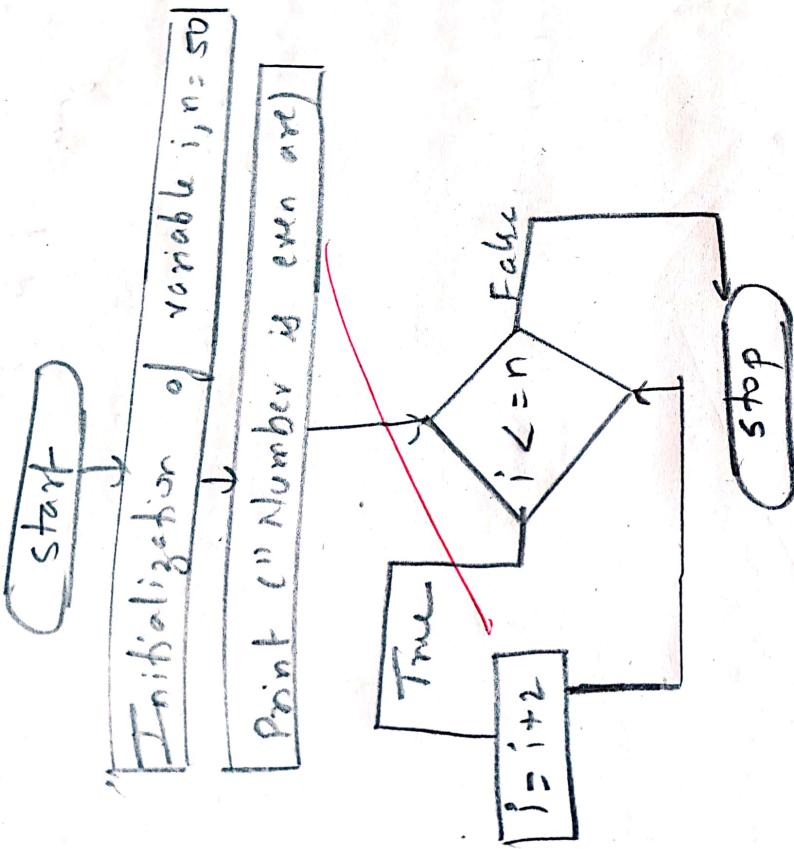
source code:

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

Algorithm :

- step 1 : start
- step 2 : Initialize two variables with static variable where $n = 56$ & $i = 2$.
- step 3 : Use while loop for printing the even numbers upto the range so.
- step 4 : Adding $a +$ current even number will give next even number.
- step 5 : Display the appropriate output.
- step 6 : stop.

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Output:
Odd no. from 1 to 50 are

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

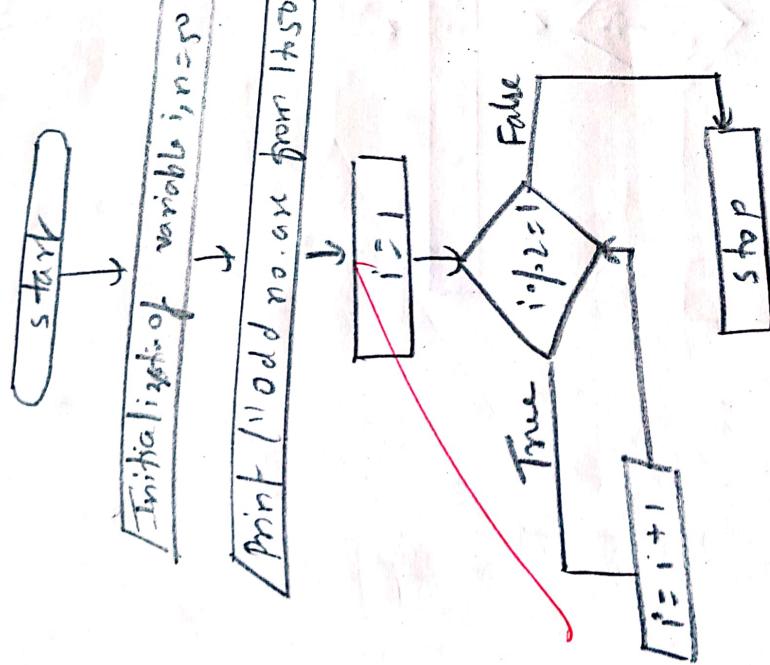
4.3

- i) Aim : Write a C program to print numbers between 1-50 using do while loop.
- Algorithm :

- Step 1 : start
- Step 2 : Initialize static variable $n=50, i=1$
- Step 3 : Use do while loop for iteration from 1 to 50
- Step 4 : Use if condition statement to check whether given no is even or odd
- Step 5 : Increment the value of i by 1
- Step 6 : Display the appropriate output
- Step 7 : stop

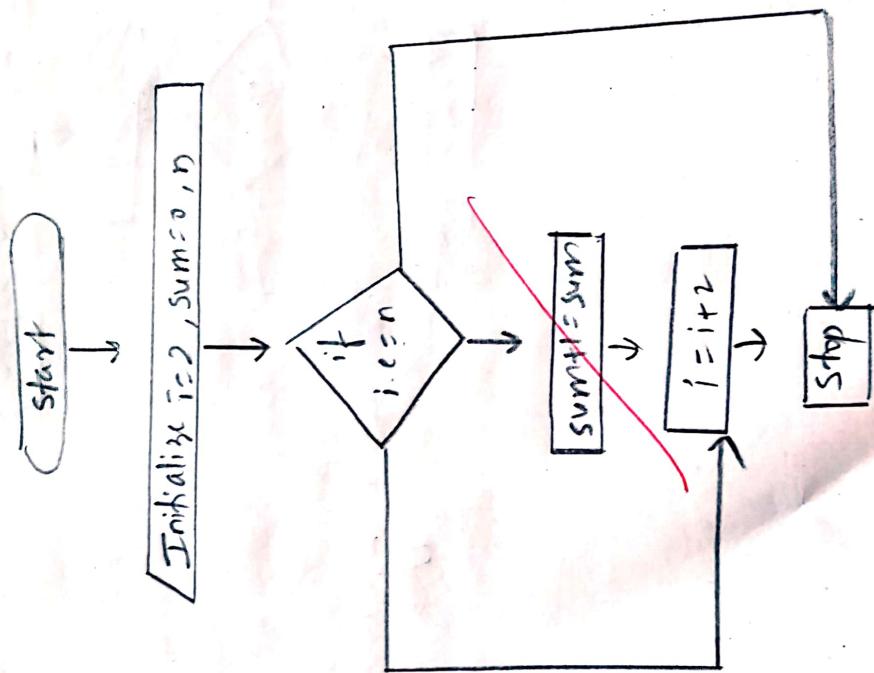
```
source code:  
#include <stdio.h>  
#include <conio.h>  
void main()  
{  
    int i, n=50;  
    clrscr();  
    printf("odd number from 1 to %d  
    arr:[n];n)  
    i=1;  
    do  
    {  
        if ((i%2==1) )  
            printf("%d", i);  
        i++;  
    }  
    pointf ("%./d\n", i);  
    getch();  
}
```

4.4



Output:
Enter the range 10
sum of all even number upto the range
sum of even 30.

Flowchart:



1) Write a C - program to print

45

even number n using for loop . If all

Algorithm :

Step 1 : start

Step 2 : Initialize three variable & one is
dynamic $i = 2$, sum = 0, j;
Step 3 : Use for loop for check the given range.
Step 4 : Add current even number.
Step 5 : Display the appropriate.

Some ~~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+=2)
sum = sum+i;

Sum = sum+j;

Y
print ("Sum of all even no.upto
range are", sum);

getch();

Practical 5

Array

Aim: Write C programme to read element from display them.

Algo:

Step 1: Start

Step 2: Declare array of any size

Step 3: Accept no. of user wants

Step 4: Use for loop

Step 5: Again use for loop to display

Code

```
#include <conio.h>
#include <stdio.h>
void main()
```

```
{ int a[20], size, i;
```

```
clrscr;
printf("Enter size of array");
scanf("%d", &size);
for (i=0, i<size, i++)
    
```

```
    printf("\nEnter value of a[%d] element", i);
```

Output:

Enter size of array: 3

Enter the value of 0 element: 5

Enter the value of 1 element: 10

Enter the value of 2 element: 15

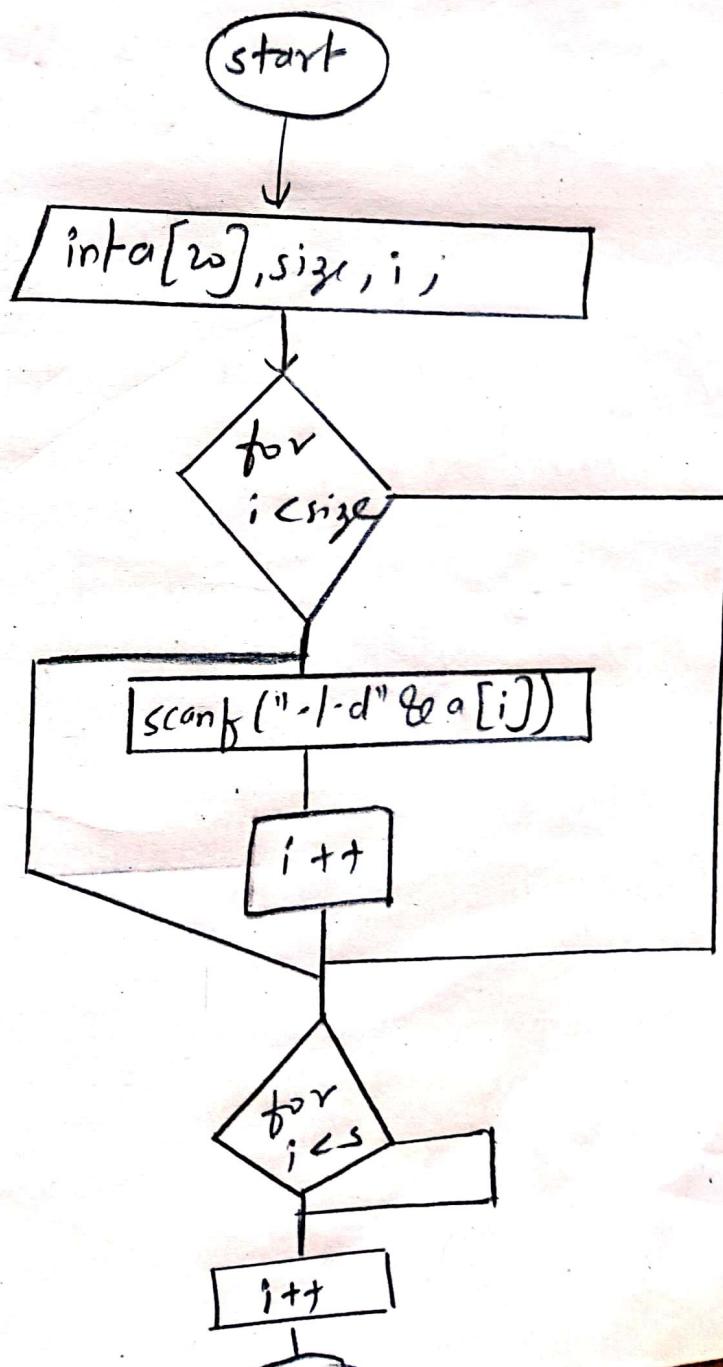
46

The elements of array

$a[0] = 5$

$a[1] = 10$

$a[2] = 15$



```

y scanf ("%d", &a[i]);
printf ("The array elements are :");
for (i=0; i<size; i++);
{
    printf ("The a[%d] = %d", i);
    printf ("\n", a[i]);
}
getch();

```

Aim - WAP in C to use fibonacci series using array.

Algo

- Step 1 - start
- Step 2 : Declare array of any size of data.
- Step 3 : Accept value from user.
- Step 4 : Initialize first element of array to 0 and element 2 to 1 as series is from 1 and 0.
- Step 5 - Use for loop to develop fibonacci series
- Step 6 - Display series using printf()

Code :

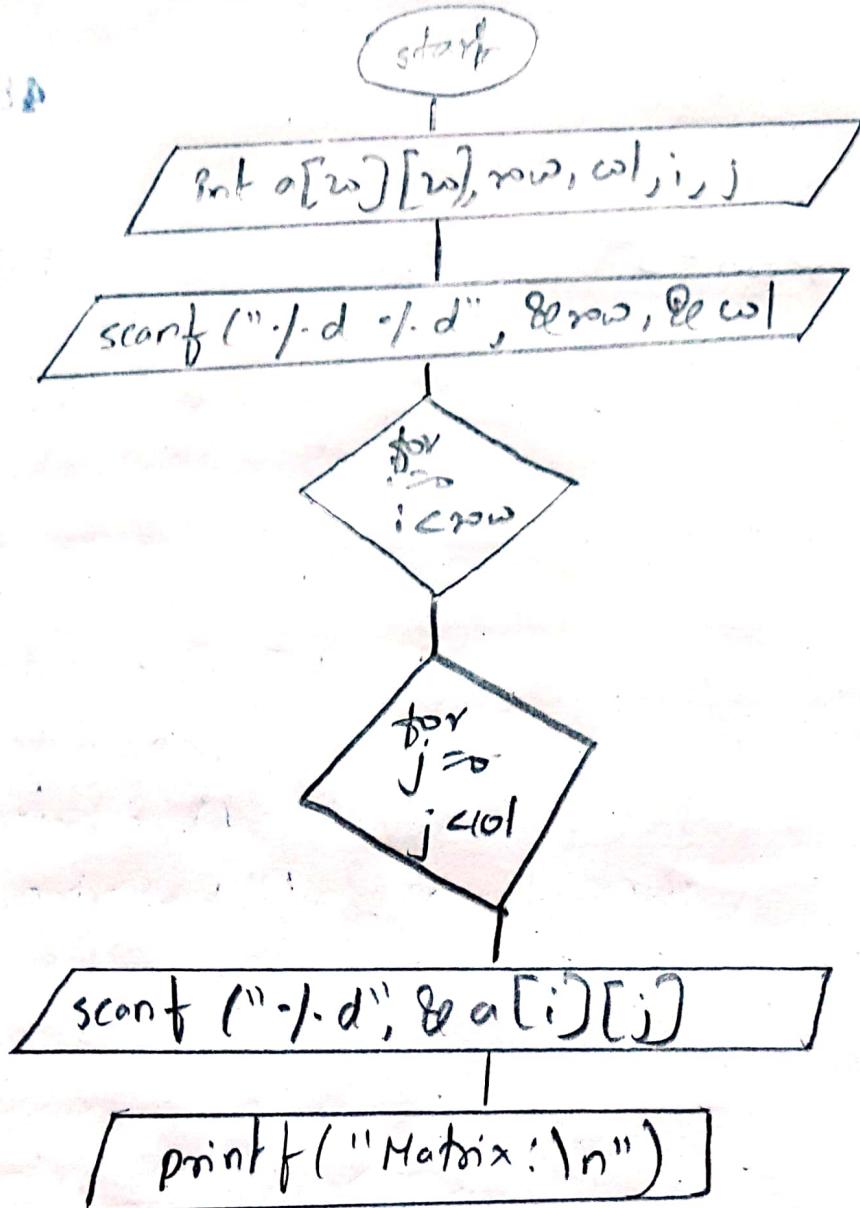
```
#include <conio.h>
#include <stdio.h>
void main()
{
    int a[20], term, i, j;
    clrscr();
    printf("Enter number of terms");
    scanf("%d", &term);
    a[0] = 0;
    a[1] = 1;
    printf("%d", a[0]);
    printf("%d\n", a[1]);
    for (i = 2; i < term; i++)
    {
        a[i] = a[i - 2] + a[i - 1];
        printf("%d", a[i]);
    }
}
```

}

Output:

Enter number of term - 5

0
1
1
2
3



for
i = 0
i < row

for
j = 0
j < col
printf

Aim : Multidimensional array displayed as matrix.

Algo :

Step 1 - start

Step 2 - Initialize 4 var : rows, col, i, j with int datatype array

Step 3 - Use for followed by another for

Step 4 - Again used for loop and print
matrix is formed

Step 5 - Stop

Code :

```
#include <unio.h>
#include <stdio.h>
void main()
{
    int a[20][20];
    int row, col, i, j;
    clrscr();
    printf("\n Enter rows");
    scanf("%d", &row);
    printf("\n Enter column");
    scanf("%d", &col);
    for(i=0; i<row, i++)
    {
        for(j=0, j<col, j++)
        {
            printf("\nEnter the a[%d][%d];", i, j);
            scanf("%d", &a[i][j]);
        }
    }
    printf("\n Matrix so formed is:\n");
    for(i=0; i<row; i++)
    {
        for(j=0; j<col; j++)
        {
            printf("%d\t", a[i][j]);
        }
        printf("\n");
    }
}
```

Output :

50

Enter number of rows - 2

Enter number of col - 2

Enter $a[0][0] = 2$

$a[0][1] = 4$

$a[1][0] = 6$

$a[1][1] = 8$

Display number are

2 4
6 8

getch () ;

)

cin <> i;

cout << i;

cin <> i;

cout << i;

cin <> i;

cout << i;

PRACTICAL - 06

Ques : Programs on functions :

- 1) Write a program in C which will demonstrate the use of getch(), getch() & getchar()

Source code :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    char ch = 'a';
    printf("\n Press any key to continue");
    getch();
    printf("\n Enter an alphabet");
    ch = getchar();
    printf("\n Continue - //n");
    getch();
}
```

Output :

press any key to continue
Enter an alphabet a *enter*
Continue - //n P *enter*

) PNP in which will demonstrate the
use of putch & putchar

52

```
#include <stdio.h>
#include <conio.h>
void main ()
```

```
{ char ch = "a";
putch (ch);
putchar (ch);
getch ();
```

y)

Output put :

aa .

Output:

Enter the value of x : 4

Factorial of 4 = 24

3) WAP to find factorial of a no. using recursion function.

```
#include <stdio.h>
#include <conio.h>
int factorial <conio.h>
int factorial (int n);
void main ()
{
    clrscr ();
    int x, fact;
    printf ("Enter value of x: ");
    scanf ("%d", &x);
    fact = factorial (x);
    printf ("Factorial of %d = %d", x, fact);
    getch ();
}

int factorial (int n)
{
    int f;
    if (n == 1)
        return (1);
    else
        f = n * factorial (n - 1);
    return (f);
}
```

4) sum of digits of entered numbers

```
#include <stdio.h>
#include <conio.h>
void abc(int n);
void main()
{
    clrscr();
    int n;
    printf("Enter Number : ");
    scanf("%d", &n);
    abc(n);
    getch();
}
```

```
void abc(int n)
```

```
{ int r, s = 0;
```

```
while(n != 0)
```

```
    r = n % 10;
```

```
    s = s + r;
```

```
    n = n / 10;
```

```
printf("Sum of digits = %d", s)
```

Output :

54

Enter number : 31

sum of digit : 4

Output:

Enter value of x, y, z : 4 9
The average : 6.33333

3) Average of 3 (entered numbers)

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

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

```
void average (int sum);
```

```
void sum (int a, int b, int c);
```

```
void main ()
```

{

```
clrscr ();
```

```
int x, y, z;
```

```
printf ("");
```

Enter value of x, y, z);

```
scanf ("%d %d %d", &x, &y, &z);
```

```
sum (x, y, z);
```

```
getch ();
```

y

```
void sum (int a, int b, int c)
```

{

```
int s;
```

```
s = a + b + c;
```

```
average (s);
```

3 y

```
void average (int sum)
```

{

```
float average;
```

```
average = sum / 3.0;
```

```
printf ("") Average : %.2f", avg);
```

3