☆☆ INDEX ☆☆

No.	Title	Page No.	Date	Staff Member's Signature
1.	program to understand the basic datatype and I/o		11/12/19	
2.	program on operators and expression		11/12/19	
3	programs on decision statemen		8/1/20	
4	programs on looping.		15/1/20	
5)	Arrays			
6)	program on function.			

PRACTICAL - 01

Aim:- programs to understand the basic datatype 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 different
                    data types ; **");
printf(" Name of the student: ");
 getsb name( );
 printf(" In address of the student: ");
  scanf (" %s", &add);
 printf ( "In roll no. of student:");
 Scanf( " %d "; & roll no.);
 printf(" In percentage of student:) ;
  Scanf ("%f", & percent );
  printf ("In grade of student :");
  scanf(" %s" , & grade);
```

```
printf("\n mobile no.:");
scanf("%lds", &mob);
printf("\n student name : %s", name);
printf("\n student address : %s", add);
printf("\n student roll no : %d", rollno);
printf("\n student percent : %f", percent);
printf("\n student grade : %c", grade);
printf("\n student mobile-no : %lds", m
getch();
}
```

program 2

source code:

```
# include <studio.h>
# include <conio.h>
void main()
{
  int side, area;
  clrscr();
  printf("%d", side);
  printf("Enter the side \n");
  scanf("%d", &side);
  area = side * side;
  printf("\n area of square %d",
  getch();
}
```

output

***** Demonstration of various datatypes ****
Name of the student : Abhishek Jha
Address of the student : Mumbai
Roll no of student 1752
percentage of the student : 79
Grade of the student : A
Mobile no. of the student 7506338665
Student name : Abhishek Jha
Student address : mumbai
Student roll-no : 1752
Student percent : 79.1.
Student grade : A
Student mobile-no : 7506338665

output of program 2

output:

Enter the side : 5
Area of a square : 25

output prac -2

Enter 1st number : 8
Enter 2nd number : 6
Addition of 2 number : 14
subtraction of 2 numbers : 2
multiplication of 2 number : 48
Division of 2 numbers : 1.3333

PRACTICAL NO- 02.

Aim:- Write a program which will show the use of various different types of operators.

Arithmetic Operators.

SOURCE CODE:

```
# Include <studio.h>
# include <conio.h>
void main ()
{
 int num 1, 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 = num * num2;
 printf ("multiplication of 2 numbers : %d \n", mul);
 div = num1 / num2;
 printf ("division of 2 numbers : %d", div);
}
 getch()
```

```
# LOGICAL operators
# include <stdio.h>
# include <conio.h>
void main ()
{
  int x, y, z, value 1, value 2, value 3,
  value 4, value 5;
  clrscr ();
  printf ("enter 1st (x) value:");
  scanf ("%d", &x);
  printf ("enter 2nd value:");
  scanf ("%d", &y);
  printf ("enter 3rd value :");
  scanf ("%d", &z);
  value 1 = (x<y) && (z>y);
  printf ("value 1 is : %d \n", value 1);
  value 2 = (x=y) && (z<y);
  printf ("value 2 is : %d \n", value 2);
  value 3 = (x<y) || (z=y);
  printf ("value 3 is : %d \n", value 3);
  value 4 = ! (x==y);
  printf ("value 4 is: %d \n", value 4);
  value 5 = (x==y);
  printf ("value 5 is: %d \n", value 5);
  getch ();
}
```

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
```

output.

The biggest number is 100.

Ternary operator.

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

PRACTICAL - 03

Aim: decision statements.

Write a program to find out even and odd numbers.

Algorithm:

STEP 1: Start.

STEP 2 : [Take input] Read a number from user.

STEP 3 : check if number % 2 == 0 then print even number.

STEP 4: EXIT

SOURCE CODE:

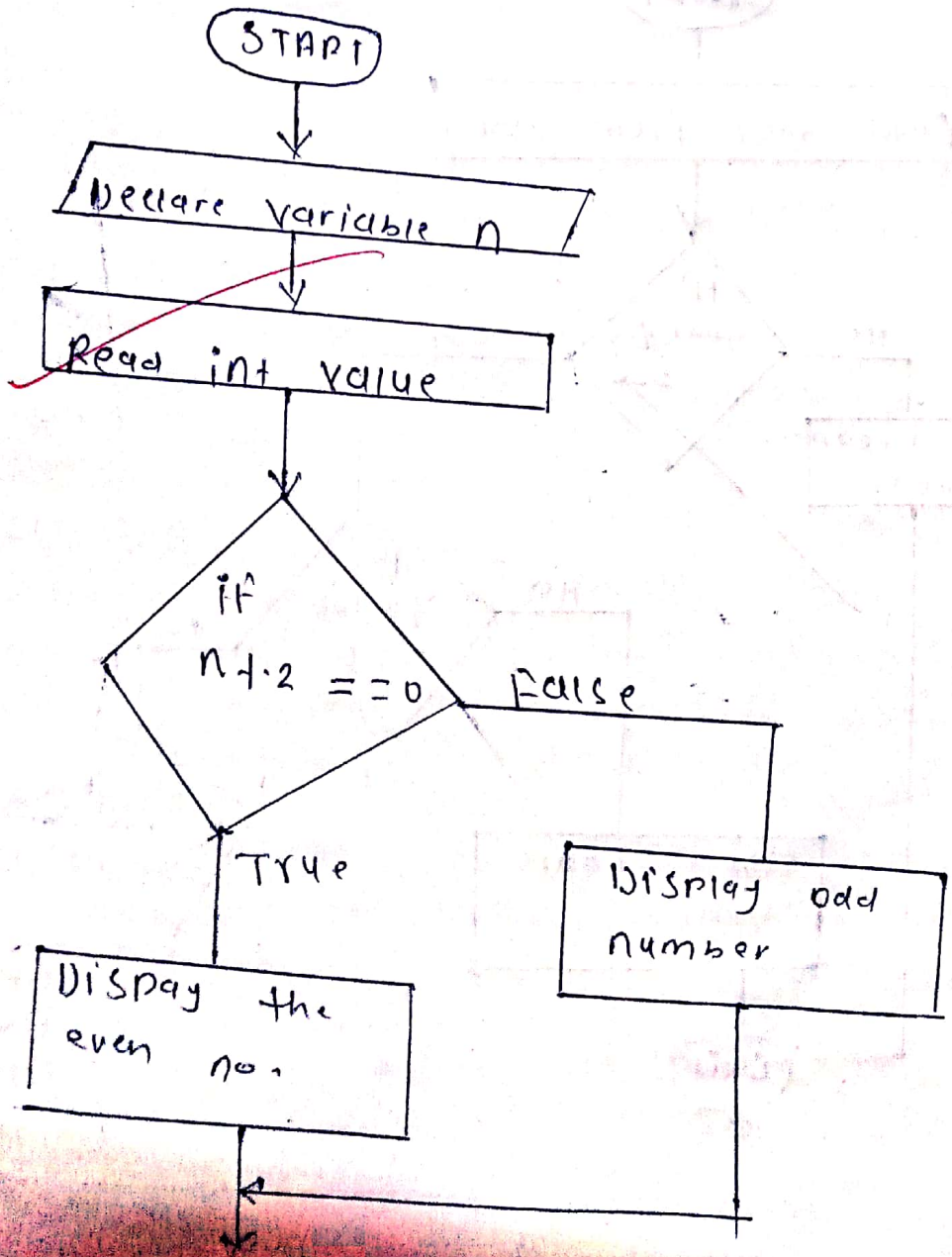
```
# include <stdio.h>
# include <conio.h>
void main ()
{
int n;
clrscr ();
printf ("enter a number:");
scanf ("%d", &n)
if (n==
```

OUTPUT

Enter a number : 26
Even number.

→ Enter a number : 53
odd number.

FLOW CHART.



OUTPUT

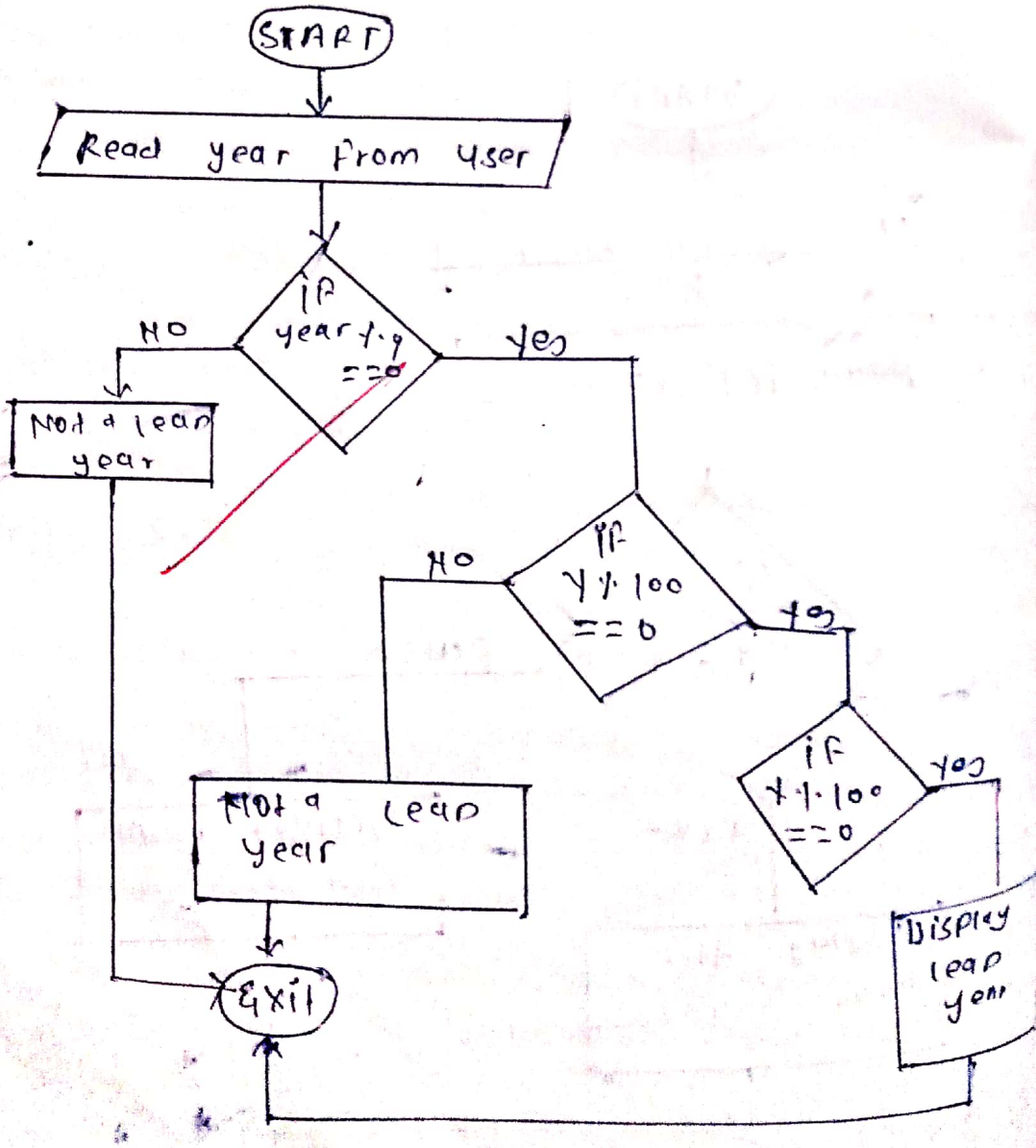
Enter a year : 2019

Not a Lead year.

=) Enter a year : 2020

Lead year.

FLOW CHART.



```
if n (1.2 == 0)
  {
   print ("a even number!");

else
 {
  printf ("odd number:");
  getch ();
 {
```

Write a program to find the entered years is a leap years or not?

Algoritum:

STEP 1 : Start

Step 2 : [Take input] Read year from the user.

STEP 3: If year1.4 = 0 and year 1.400 == 0 or ~~print~~ years 1.4 = 0 and years 1.100 != 0 print NOT A LEAP YEAR.

STEP 4 : Exit

SOURCE CODE

```
# 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")
  {

    printf ("NOT a Leap
  {
{
  else
    printf ("Not a Leap year")
  {
  getch ();

{
```

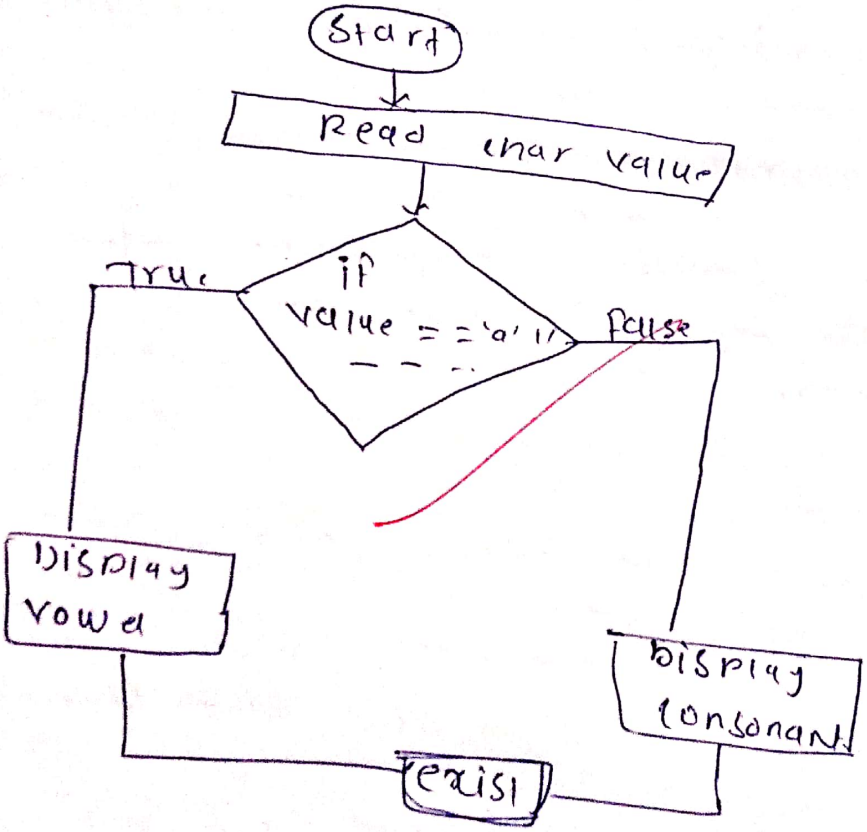
05/02/2020

Output

Enter a alphabet : o
vowel

Enter a alphabet : x
consonant

Flowchart



Write a program to find whether the character is vowel or consonant.

ALGORITHM:-

STEP 1: Start.

STEP 2: [Take input] Read character value from user

STEP 3: [CHECK] if value == 'a' || value == 'e' ||
value == "A" || value == "E" || value == "I" ||
value == "O" || value == "U"

STEP 4: exit

Source code:

```
# include <stdio.h>
# include <conio.h>
 void main ()
 {
 char a;
 clrscr ();
 printf ("Enter the alphabet:");
 scanf ("%c", &a);
 if (a == 'a' || a == 'e' || a == 'i' || a == 'o' ||
 a == 'u' || a == 'A' || a == 'E' || a == 'I' ||
 a == 'O' || a == 'U')
    {
    printf ("Vowel");
```

PRACTICAL - 4

Aim :- Write a program to print even no. b/w 0-50 using While loop.

Algorithm :-

STEP 1: Start

Step 2: Initialize two variables with static variables where n=50 and i=2

STEP 3: Use While loop for printing the number upto the range 50

STEP 4 :- Adding 2 to current even number will given next even number.

STEP 5: Display the appropriate output.

Step 6: STOP.

Source code:

```
# include <conio.h>
# include <stdio.h>
 void main ( ).
{
 int i, n=50; sum =0;
   clrscr ();
print ("All even no. From 1 to 50 are\n");
   i= 2;
   while ( i<=n)
    {
```

```
print("%d", &i);
    i = i + 2;
  }
  getch();
}
```

7) Write a program to print even number b/w 0-50 using for loop.

Source code.

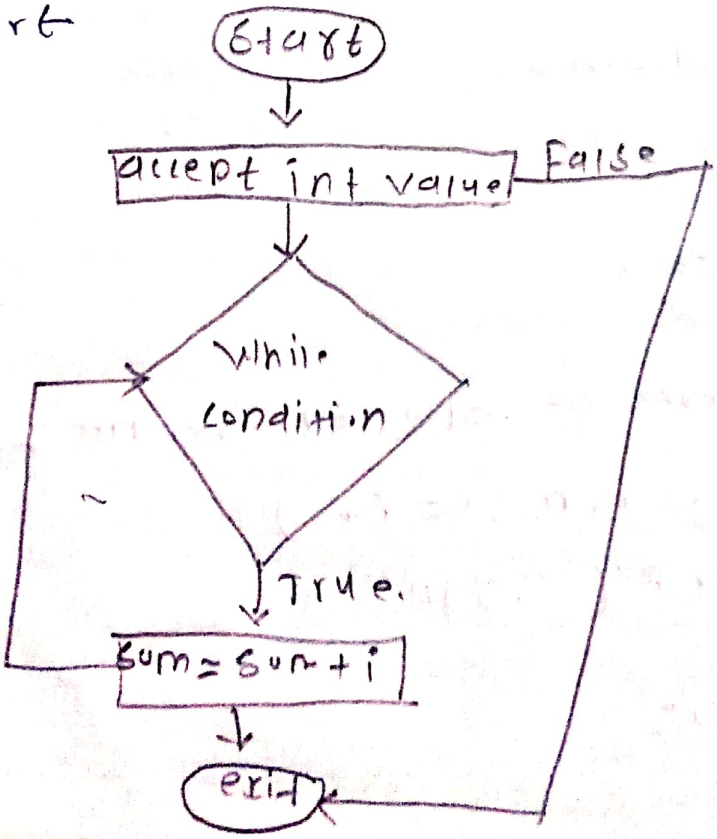
```
# include <conio.h>
# include <stdio.h>
void main();
{
  int i, n = 50;
  clrscr();
  print("even no. b/w 0 to 50 are :\n");
  for(i=0; i<n; i=i+2)
      printf("%d\n", i);
  }
  getch();
}
```

Output

All even no b/w 0 to 50. are.

0 22 44
2 24 46
4 26 48
6 28 50.
8 30
10 32
12 34
14 36
16 38
18 40
20 42

Flowchart



Algorithm:-

Step 1:- Start.
Step 2: Initialize variable and assign any value.
Step 3: Use for loop and display the output according.
Step 4: Exit.

using do while loop.

Source code:-

```
# include <conio.h>
# include <stdio.h>
void main ()
{
 int i, n =50;
  clrscr ();
printf("Odd number from 1 to 50 are \n");
  i= 1;
  do
  {
   if (i % 2 ==1)
      {
       printf ("%d \n", i);
      }
       i ++;
      while (i<=n);
        getch ();
}
```

Algorithm

Step 1: Start

Step 2: Accept the value from the user to find
the range till odd numbers to be for

Step 3: make use for do while loop and in
we if condition to check condition an
store result accordingly.

Step 4: Display the output using print

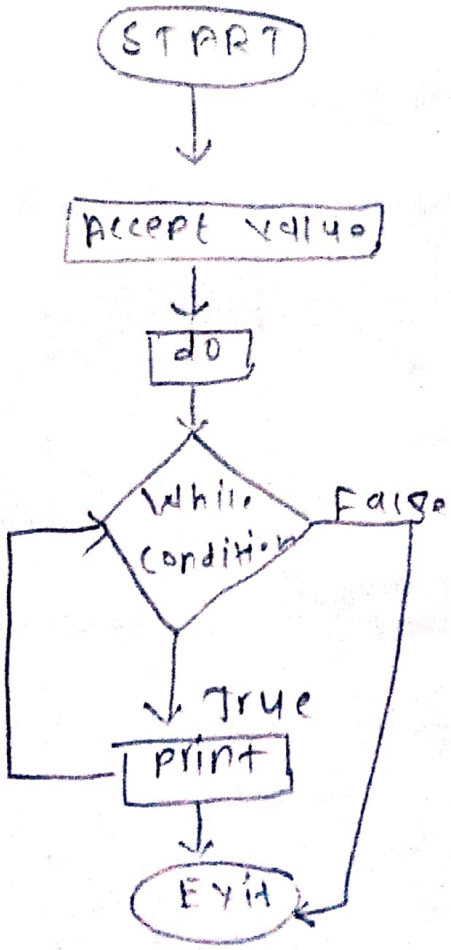
Step 5: stop.

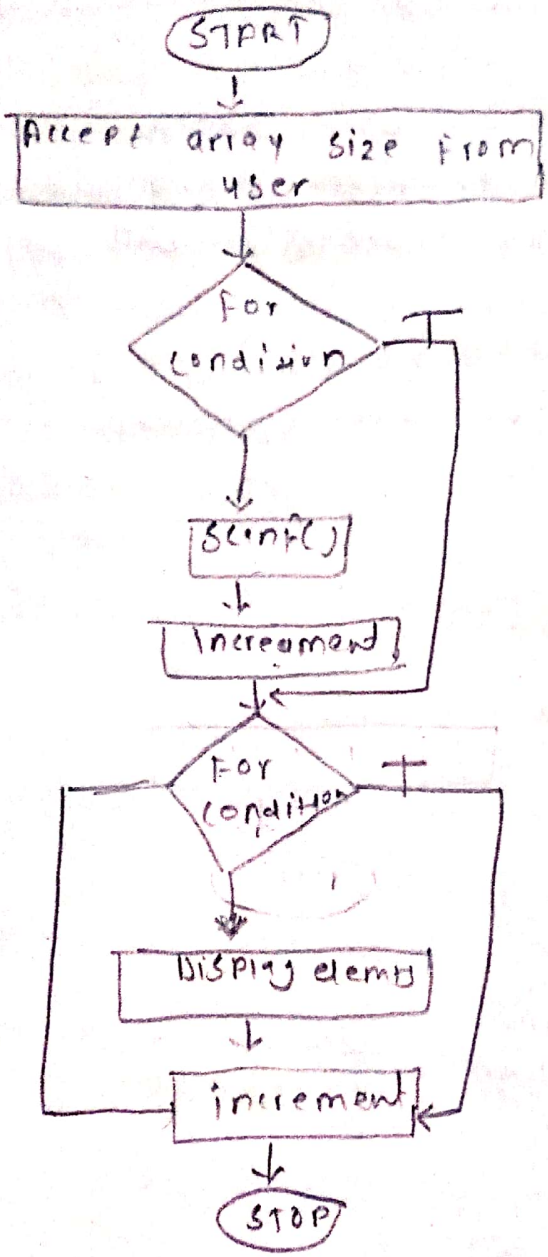
output:

odd no. From 1 to 50.

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

Flowchart.





PRACTICAL - 5

TOPIC : Arrays:

Basics of arrays

Write a program 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 no. of elements wer want to enter in array.

Step 3: Use for loop to accept the array element from the user.

Step 4: Again we for loop to display array elements.

Source code:

```
# include <stdio.h>
# include <conio.h>
  Void main ()
  {
    int a[15], size, i;
  clrscr ();
      printf ("Enter the size of array you want");
       Scanf ("%d", &size);
       for (i=0, i< size; i++)
```

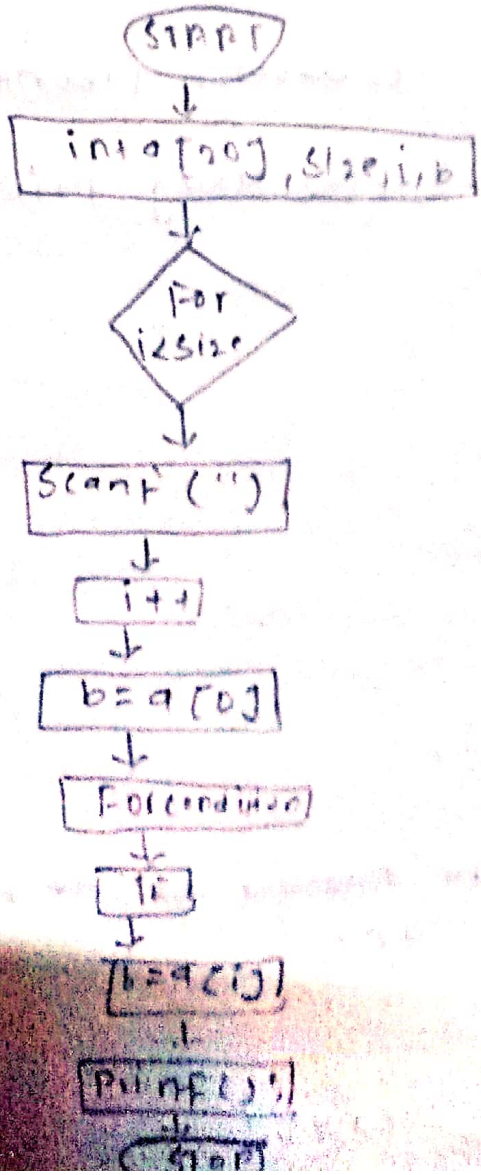
```
printf("\n Enter the value of a[%d] elements");
scanf("%d", &a[i]);
}
printf("\n Enter the value of
printf("\n the array elements are");
for (i=0; i<size; i++)
{
printf("\n a[%d] =", i);
printf("%d", a[i]);
}
getch();
}
```

Output

Enter the size of array you want 4
Enter the value of a[1] element 1
Enter the value of a[1] element 2
Enter the value of a[2] element 4.

The array element are.

a[0] =1
a[1] =2
a[2] =3
a[3] =4



Write a program in c to develop fibonacci series using array.

Algorithm.

STEP 1: Declare array of a size of data type

STEP 2: Accept a value from user till a you want display the fibonacci series.

STEP 3: Initialize first element of array to a second element to 1 a series starts from 0 & 1.

STEP 4: Use for loop to develop fibonacci series

STEP 5:- Display the series using print f() func

Source code:-

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

```
}
printf(" The fibonacci series upto n term is :
                                    %d", n);
{
for(i=0;  i<n ; i++)
  printf ("%d\t", a[i]);
   {
   getch();
   }
```

output

~~Centre~~ Center the number of term 9
The fibonacci series upto n term is 9 4 1 2
3 5 8 13 21

Algorithm :

STEP 1 : Declare a multidimensinal array with any size

STEP 2 : Accept the value of ~~n~~ row and columns from user want to create.

STEP 3 use 2 for loops for accepting the values of elements of array using scanf()

STEP 4 Again use 2 for loop to display the elements of source and column accordingly using printf

```
#include <stdio.h>
#include <conio.h>
void main
{
int a[20][20] row, i s1 i, j;
clrscr().
printf(" Enter the number of row");
scanf("%d", &row);
printf(" In Enter the number of column:
 scanf("%d", &w');
 for(i=0; i<row; i++)
 {
 for(j=i j<col; j++)
{
print(" In Enter the a[%d][%d] element
scanf("%d", &a[i][i]);
 }
}
 printf(" In The display matrix is
 for(i=0; i<row; i++)
 for (j=0; j<col; j++)
  printf("%d\t", a[i][i]);
 } printf(" In");
 getch();
}
```

output:

```
Enter the no of row : 2.
Enter the no. of col : 2
Enter the a[0] [0] element : 1
Enter the a [0] [1] element : 2
Enter the a[1] [0] element : 3
Enter the a[1][1] element : 4

The display matrix is
1   2
3   4
```

practical- 6

Aim Program on Function.

WAP to find factorial of a number using recursion function.

Algorithm:-

STEP 1 : Start
Step 2: Define a function which will call the factorial of given number.
STEP3: Define main function and accept the n. From user. Also define another variable of integer datatype.
STEP4: call to the function and print the value.
STEP5: Now define the body of function which calculated ~~fact~~ factorial
STEP6: use the if conditional statement and calculate the value accordingly
STEP 7 : ~~return~~ Return.
STEP 8: Stop.

Source code.

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

```
int factorial (int in);
void main( )
{
 int num , fact;
 clrscr ( );
printf ( "\n enter a no: \n" );
scanf ( "%d ", &num );
fact = factorial (num);
printf ( "\n Factorial of %d is: %d " num,fact
getch ( );
}
 int factorial (int n)
{
int f;
if (n==1)
{
return (1)
}
else
{
f = n* factorial (n-1);
{
 return return (F);
}
```

3) program to Find sum of digit of entered no.

Algorithm:-

STEP 1: Start

STEP 2: Define a function which will calculated the sum of digits.

STEP 3: take the function def above main function to cal sum of digit.

STEP 5:- Def the body of function def above the accept def, two integer variables.

STEP 6:- use the while loop & perform the cal. accordingly of

STEP 7: print the value of sum so calculated

STEP 8: Stop.

Source code.

```
# include <Stdio.h>
# include <conio.h>
Void sum (int n)
Void main ()
{
  Int num;
    clrscr();
```

```
Printf ("\n Enter a number : \n");
scanf ("%d", &num);
sum (num);
getch ();
}
void sum (int n)
{
  int v, s=0
  while (n>0)
  {
   v = n%10
    s = s+v
    n = n/10
  }
  printf("\n sum of digits is : \n %d", s);
```

output

Enter a no : 5
factorial of 5 is
120.

Enter a no: 51
sum of digits is :6

Enter a number 51