PRACTICAL- 1

AIM : Write a program to understand the basic datatype and I/O

Source Code :

```
#include <stdio.h>
#include <conio.h
void main ()
{
    char name [50]
    char addr ;
    long int mobno ;
    Float per ;
    char grade ;
    int roll no ;
    clscr ();
    Print f ("*** Demonstration of Datatype *** ");
    Print f (" enter student name \n");
    Scan F ("%.s", & name );
    Print F (" Enter student's address \n" );
    Scan F (" %.s", & addr );
    Print F (" Enter mobile no \n ");
    Scan F (" %.ld ", & mobno );
    Print F ( " enter percentage \n" );
    Scan F (" %.F ", & per );
    Print F (" enter grade \n" );
    Scan F (" %.s", & grade );
```


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```
Print F(" Enter roll no \n");
Scan F (" %d", & roll no);
Print F (" \n Name : %. s", name);
Print F (" \n Address : %. s", addr);
Print F (" \n Mobile : %. ld", mob no);
Print F (" \n Percentage : %. F", per);
Print F (" \n grade : %. c", grade);
Print F (" \n roll no : %. d", roll no);
getch ();
}
```

Program 1 :-

output :

```
*** Demonstration of Datatypes ***
Enter student name
Unnati
Enter student's Address
Borivali
Enter Mobile No
9902--.
Enter percentage
86 %.
Enter grade
A
Enter Roll no
1797

Name : Unnati
Address : Borivali
Mobile no : 76978
Percentage : 86
Grade : A
Roll no : 1797
```


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Output:

Enter radius:

2

Area of circle: 12.560000.

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Program - 2

```
#include <stdio.h>
#include <conio.h>
    Void main ()
{
        Float r;
        Float pi = 3.14
        Float area,
        clscr ();
        Print (" enter radius : \n");
        Scan F ("%. F ", & r );
        area = pi * r * r;
        Print F ("Area of circle : %. F", area);
        getch ();
}
```

24/12/19

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PRACTICAL - 02

AIM :- Use of different types of operator.

Source code

Arithmatic Operator

```
# include < stdio.h >
# include < conio.h >
Void main ()
{
    int num1, num2, add, sub, mul, Div;
    Clscr ()
    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);
    getch ();
}
```


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Output

Enter 1st Number : 8
Enter 2nd num : 4
Addition : 12
Subtraction : 4
Multiplication : 32
Division : 2.

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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

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logical operator

Source Code

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int x, y, z, value1, value2, value3, value4,
value5;
    clscr();
    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 is: %d/n", value1);
    value2 = (x=y) && (z<y);
    Printf("value 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);
    Printf("value 5 is: %d\n", value5);
    getch();
}
```


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(B) Aim: Write a C program that will demonstrate the use of ternary operator

Source code:

```
# include < stdio.h >
# include < conio.h >
 Void main ()
{
        int a, b, x;
        Clrscr ();
        Printf (" value of a is :");
        Scanf (" %d", &a);
        Print f (" value of b is :");
        Scanf (" %d", &b);
        Print f (" Greater number is : %d \n", x);
        getch ();
}
```


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output

value of a is 8

value of b is 2

greater number is : 8.

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030.

Output

Enter a year: 2012

Entered year is a leap year

Enter a year: 2017

Not a leap year

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PRACTICAL-3

(A) AIM: To find whether the entered year is a leap year or not.

Source code

```
#  include < stdio.h>
#  include < conio.h>
 Void Main ()
{
      int n;
      clscr();
      Printf (" enter a year :");
      Scanf ("%d", &n);
      if (n % 4 == 0)
      {
         Print f (" Entered year is a leap year ;n);
      }
         else
      {
         Print f (" Not a leap year ");
      }
       getch ();
}
```


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(8) Aim: write a program to find odd & even

Source Code:

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int num;
    Clrscr();
    Printf("Enter a number:");
    Scanf("%d", &num);
    if ((num%.2)==0)
    {
        Printf("Even Number");
    }
    if ((num%.2)!=0)
    {
        Printf("odd number");
    }
    getch();
}
```


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output

Enter a number : 8
Even Number

Enter a number : 9
odd number

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SSD

Output

Enter the character : e
Entered character is a vowel

Enter the character : V
Entered character is a constant.

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(c) Aim: To find the enter character is vowel of Constant.

Source code

```
# include <stdio.h>
# include <conio.h>
void main()
{
    char x;
    clscr();
    Printf(" Enter the character: ");
    Scanf("%c", &x);
    if (x=='a' || x=='e' || x=='i' ||
        x=='o' || x=='a' || x=='A' || x=='E' ||
        x=='I' || x=='O' || x=='U')
    {
      Printf(" Entered character is a vowel");
    }
    else
    {
      Printf(" Entered character is a Constant");
    }
    getch();
}
```

07/01/2020

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PRACTICAL NO: 04.

a] AIM: 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:
                                        \n", n)
        i = 2
        while (i<=n)
        {
            Print ("%d \n", i);
            i = i+2;
        }
        getch ();
}
```


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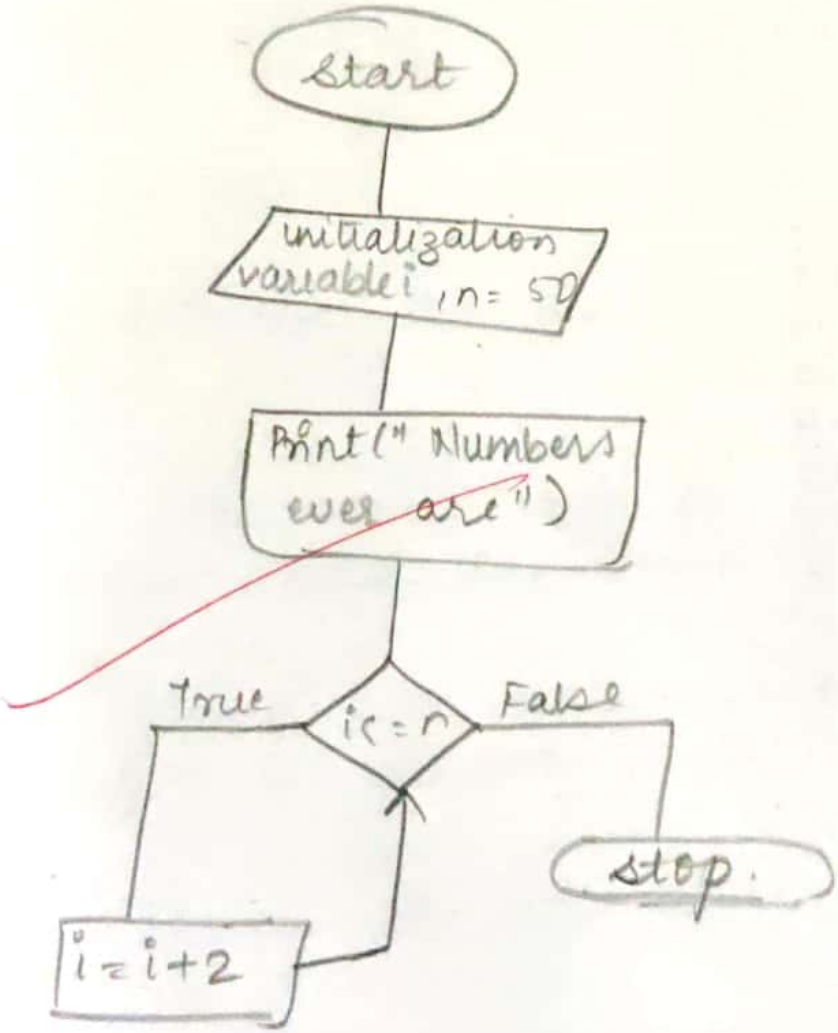

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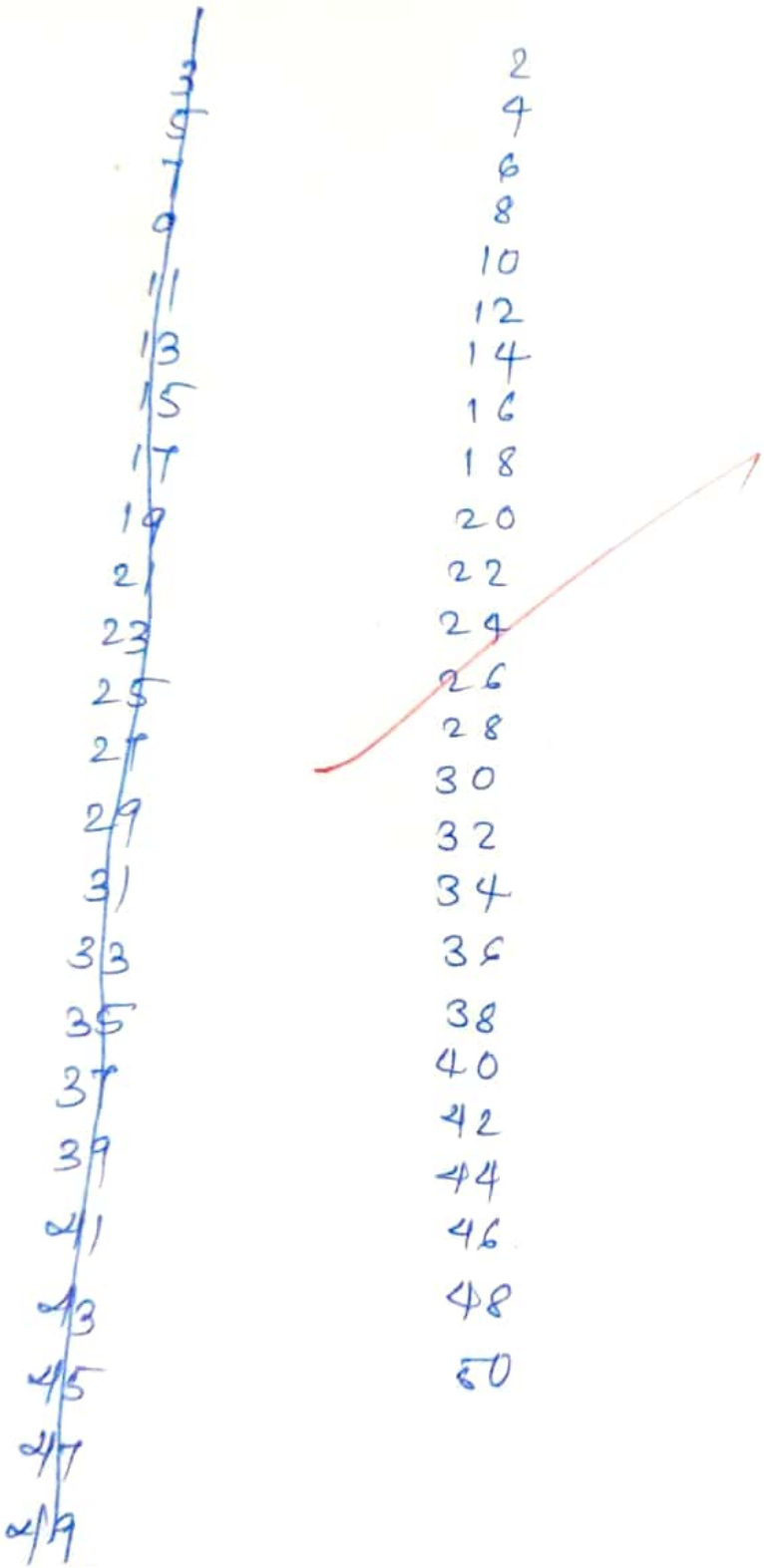
Output:

~~Odd~~ even nos from 1 to 50.



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Algorithm

step 1: Start

step 2: Initialize two variable with static variable when 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.

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b] AIM: Write a program to print odd number between 1-50 using while loop.

Source Code

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


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output :
odd number from 1 to 50 .

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

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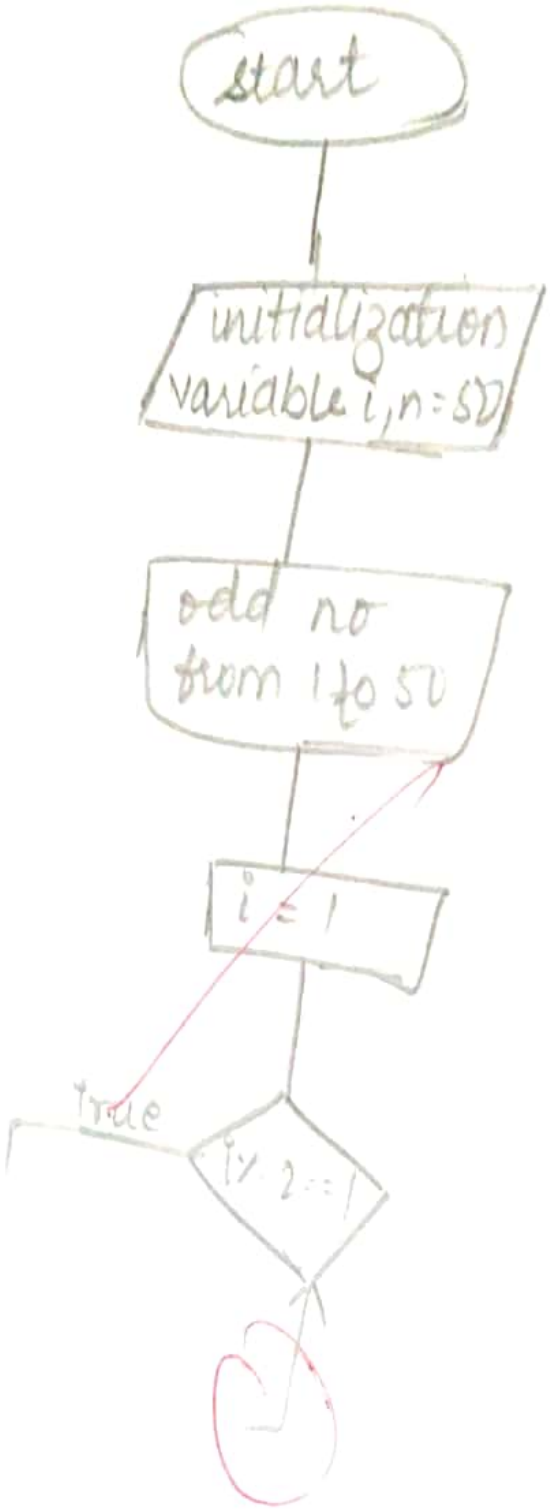

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Algorithm

Step 1: Start

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

Step 3: Use do while loop for iteratoss from 1.

Step 4: Use if Condition statment to check whether given number is even or odd.

Step 5: Increment the value of i by 1

Step 6: Display the appropriate output

Step 7: Stop.

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7] Aim : W.A.P to print sum of all even no. between 1 to n 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
                 ranges is :", Sum ) ;
        getch ( ) ;
}
```


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output

enter the range : 20

Sum of all even number upto the range is =110.

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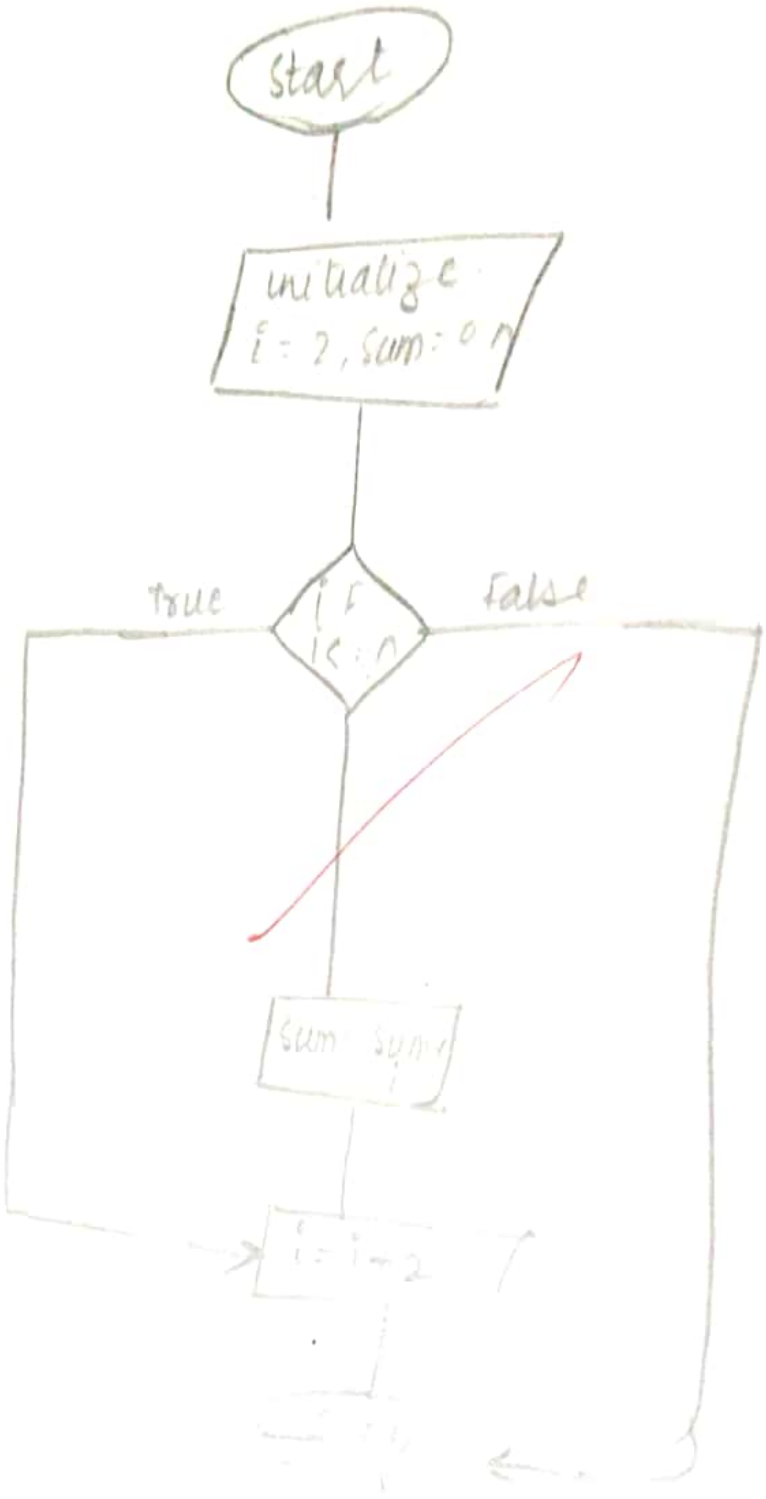

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Algorithm

Step 1: Start

Step 2: Initialize three variable from these two is static and one in dynamic
i = 2; sum = 0; n;

Step 3: Use for loop for checking the even no eg print upto the given range.

Step 4: Add Current even number to sum

Step 5: Display the appropriate output

Step 6: Stop.

04/04/2020

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PRACTICAL- 05

AIM : To understand the concept of Arrays

ONE DIMENSIONAL ARRAYS :-

Program 1 :- Find the largest number in an array of 10 numbers.

```
# include < stdio.h>
# include < conio.h>
 void main ()
{
  clrscr ()
  int i, l, a[10];
  printf ("\n Enter 10 data of array :");
  for (i=0; i<10; i++)
  {
  scanf ("%d", &a[i]);
  }
    l= a[0];
    for (i=1; i<10; i++)
{
    if ( l< a[i])
  }
}
  printf ("\n largest :%d", l);
  getch ();
}
```


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output

Enter 10 data of array :

12 56 90 7 11 46 77 60 10 34

smallest : 7

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To sort elements in array in ascending order.

Algorithm:

step 1: Clear the screen

step 2: Initialize with three variable of integer type.

step 3: Use for loop.

step 4: Use if statment & print statment sorted array.

Source Code:

```
#
#
  Void main()
{
    int i, k, j, a[5]
    float avg;
    clrscr();
    printf("Enter element into array);
    for(i=0; i<5; i++)
{
    for(k=j+1; k<5; k++)
{
    if(a[j] < a[k])
{
        t=a[i];
```


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```
            a[i] = a[k];
            a[k] = t;
        }
    }
}

printf("\n sorted array");
for(i=0; i<5; i++)
{
    printf("%d", a[i]);
}
getch();
}
```


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output:

Enter Elements of array a: 5 6 7 8 9

Sorted array: 9 8 7 6 5

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To add two matrix.

Algorithm:

Step 1: Clear the screen

Step 2: Initialize two variable.

Step 3: Declare arrays.

Step 4: Use for loop.

Step 5: Enter elements of matrices & add the matrices.

Source Code:

```
#
#
Void main()
{
    int x[3][3], y[3][3], z[3][3];
    int r, c;
    Printf("Enter element of matrix x");
    for(r=0; r<3; r++)
    {
        for(c=0; c<3; c++)
    {
        scanf("%d", &x[r][c]);
    }
```


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```
    }
    for (r=0; r<3; r++)
    {
      for (c=0; c<3; c++)
      {
        z[r][c] = x[r][c] + y[r][c];
      }
    }

    Printf ("\n Matrix z:");
    for (r=0; r<3; r++)
    {
      for (c=0; c<3; c++)
      {
        printf ("%d", z[r][c]);
      }
      print("\n");
    }
    getch();
}
```


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output :-

enter element of matrix x : 0 1 2 3 4 5 6 7 8

y : 0 1 2 3 4 5 6 7 8

matrix z :

0	2	4
6	8	10
12	14	16

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To do matrix manipulation

Algorithm:

step 1: Clear the screen

step 2: Initialize variables.

step 3: Print elements of matrix X & Y

step 4: Use for loop.

step 5: Print in end.

Source Code:

```
# Include < stdio.h>
# include < conio.h>
 Void main ()
{
    int x[3][3], y[3][3], z[3][3];
    int r, c, k, l,
    Printf (" elements of matrix x : ");
    for (r=0; r<3 ; r++)
    {
        for (c=0; c<3 ; c++)
    {
        scanf ("%d", & x[r][c]);
```


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```
Printf(" Enter elements of y:");
for (r=0; r<3; r++)
{
    scanf("%d", &y[r][c]);
}
for(r=0; r<3; r++)
{
    for (c=0; c<3; c++)
    {
        for (k=0; k<3; k++)
        {
            t = t + x[r][c] * y[r]
        }
        z[r][c] = t
    }
}
printf(" Matrix z:");
for (r=0; r<3; r++)
{
    for (c=0; c<3; c++)
    {
        printf("%d", z[r][c]);
    }
    getch();
}
```


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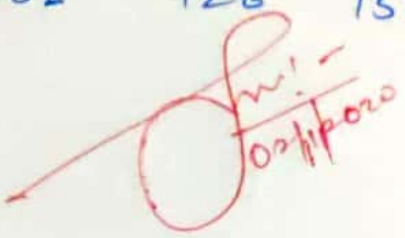
output!

Elements of matrix X : 1 2 3 4 5 6 7 8 9

Y : 1 2 3 4 5 6 7 8 9

Matrix X :

30	36	42
66	81	96
102	126	150



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