

Practical -1

Aim:- Programs to understand the basic datatypes and input/output.

Program 1: Area of Rectangle.

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    int l, b, area;
    printf("Enter the numbers:");
    scanf("%d %d", &l, &b);
    area = l * b;
    printf("The area is: %d");
    getch();
}
```

Program 2 → Volume of Sphere

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    float r, v, pi;
    printf("Enter the radius:");
    scanf("%f", &pi);
    pi = 3.14;
```

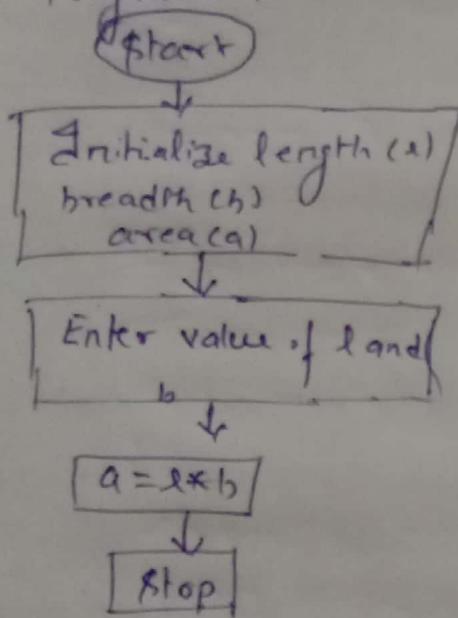
15 Output

Program 1:

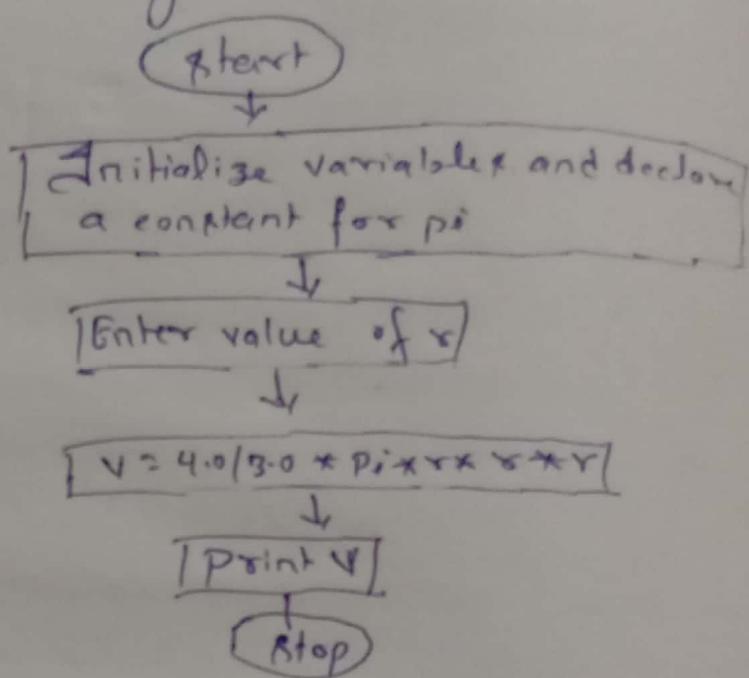
Enter the number: 5 8

The area is: 40

Program 1



Program 2



Program 2

Enter the radius: 7

The volume is: 1436.026783

```

 $v = 4 \cdot 0 / 3 \cdot 0 \pi * r^3$ 
printf ("The volume is: %.f", v);
getch();

```

Program 3 Average of 3 no.

```

#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    float a,b,c,avg;
    printf ("Enter the no:");
    scanf ("%f,%f,%f", &a, &b, &c);
    avg = (a+b+c)/3;
    printf ("Avg: %.f", avg);
    getch();
}

```

Program 4: Convert temperature from celsius to Fahrenheit

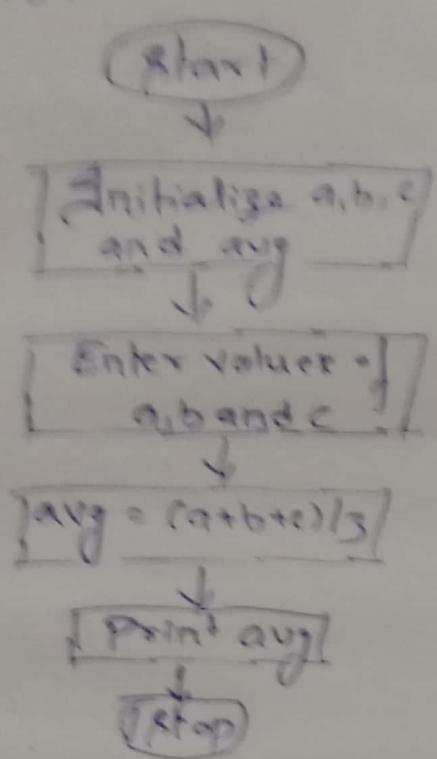
```

#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    float c,f;
    printf ("enter the value of celsius");

```

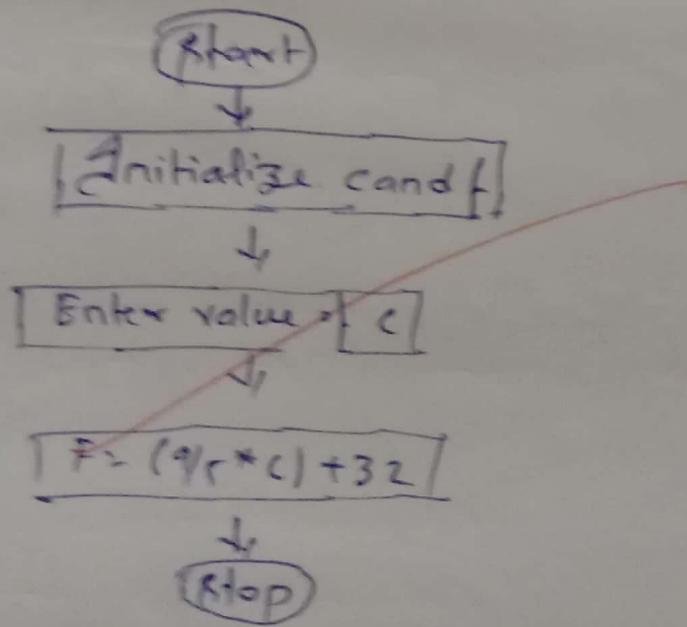
Output Program 3

Enter the numbers 7 9 2
Avg : 8.



Output Program 4

Enter the value of celcius : 3
Fahrenheit : 37.40002.



```

scanf ("%f", &c);
printf ("Fahrenheit: %.f", f);
getch();
}

```

Program: 5 → Convert temperature from farenheit to celsius

```

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

```

```

float c, f;
clrscr();
printf ("Enter the value of farenheit: ");

```

```

scanf ("%f", &f);

```

```

c = (5.0/9.0)*(f-32);

```

```

printf ("Celsius: %.f", c);

```

```

getch();
}

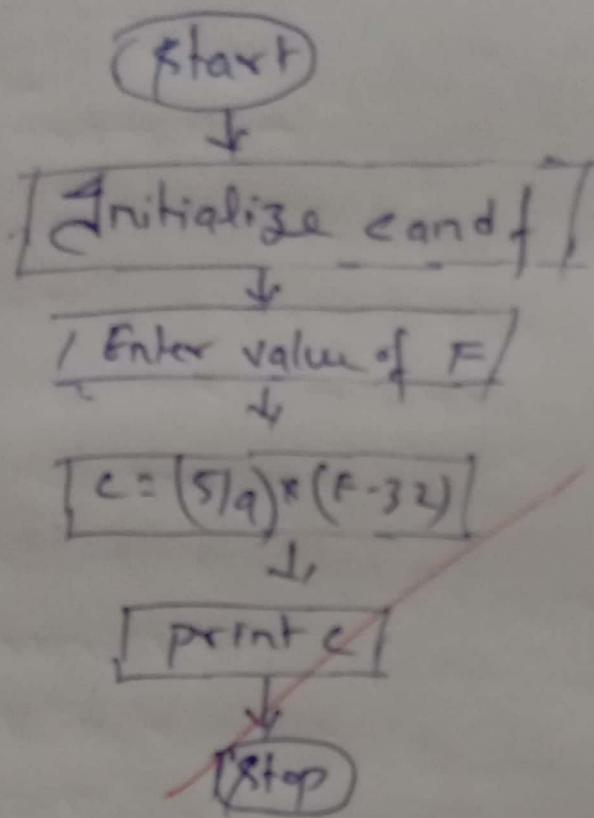
```

89
7/01

Output: Program: 5

Enter the value of Fahrenheit : 80

Celsius : 26.666



RS

Practical - 2

Aim: Programs on operations and expressions.

Program 1:-

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    int a,b,c,d;
    a=15, b=10;
    printf ("\n a=%d b=%d", a,b);
    c = ++a - b;
    d = b + + + a;
    printf ("\n a=%d, b=%d , d=%d, c=%d", a,b,c,d);
    c = a % b;
    d = a / b;
    printf ("\n c=%d, d=%d", c,d);
    getch();
}
```

Output

$$a = 15 \ b = 10$$

$$a = 16 \ b = 11 \ c = 8 \ d = 26$$

30

$a \bmod b : 5$

a divided by $b = 11$

(Start)

Initialize a, b, c and d)

$$\left\{ \begin{array}{l} a = 15 \\ b = 10 \end{array} \right.$$

Print a and b)

$$\left\{ \begin{array}{l} c = ++a - b \\ d = b + ++a \end{array} \right.$$

$$\left\{ \begin{array}{l} c = a \% b \\ d = a / b \end{array} \right.$$

~~Print c and d)~~

(Stop)

Program = \Rightarrow Operator Precedence.

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    float a,b,c,x,y,z;
    a=18;
    b=15;
    c=3;
    printf("The value of a=%f , b=%f , c=%f ,", a,b,c);
    x=(a+b)/(3+c)*2-1;
    y=a-b/(3+c)*(2-1);
    z=a-(b/3*c)*2)-1;
    printf("\n the value of x=%f , y=%f , z=%f",
          x,y,z);
    getch();
}
```

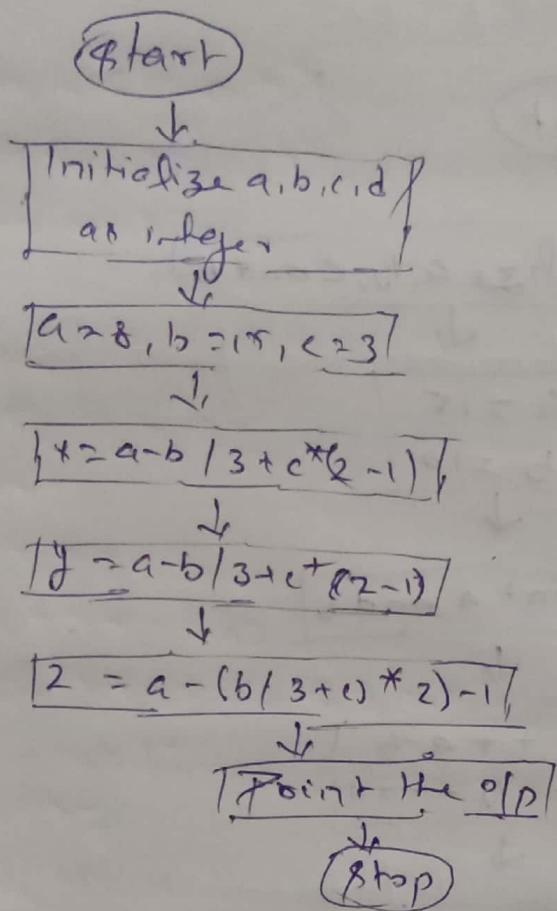
Program 13

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    int a=4, b=3, c=0, ans;
    ans = ++a + b + c + a;
    printf("\n a=%d , b=%d , c=%d ans=%d", a, b, c,
          ans);
    getch();
}
```

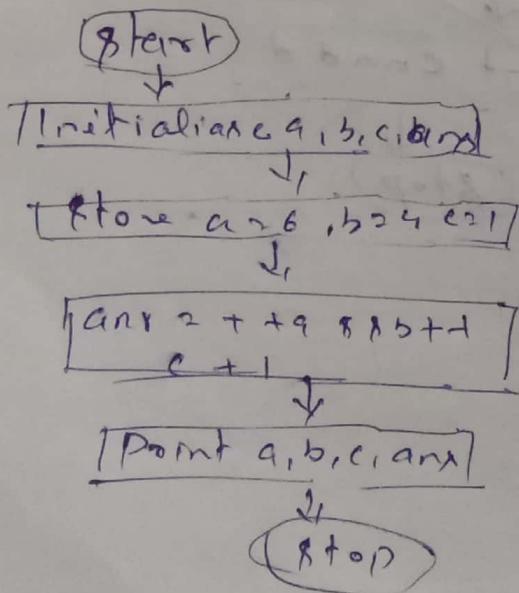
Output

$$\begin{array}{lll} a = 8.0 & b = 15.0 & c = 3.0 \\ x = 8.0 & y = 5.5 & z = 2. \end{array}$$

Flowchart



Output a = 8 b = 15 c = 3 ans = 21



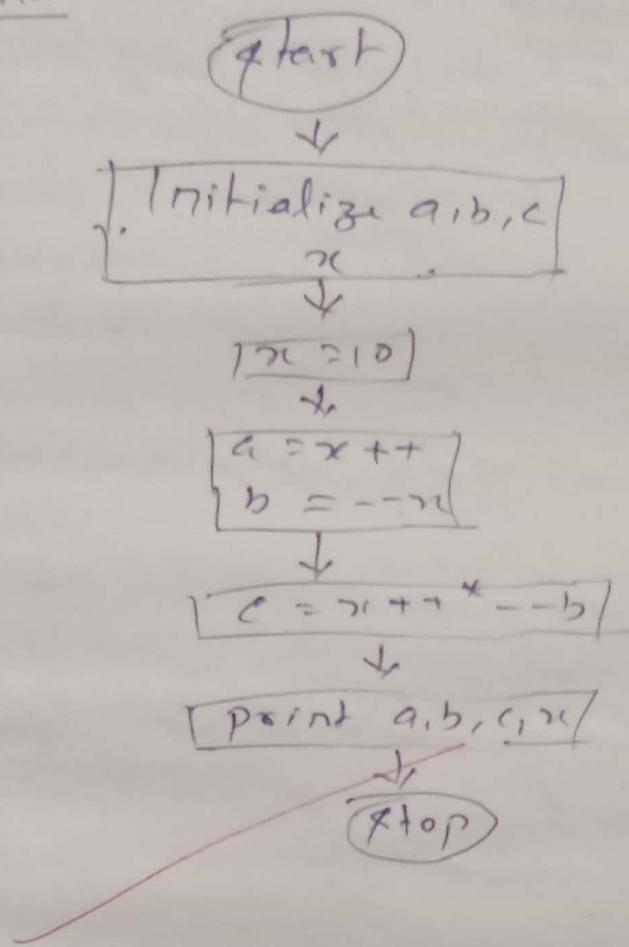
Program 4

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    Int x=5, a,b,c;
    a=x++;
    b = --x;
    c = x++*--b;
    printf ("\n a=%d, b=%d, c=%d, x=%d", a,b,c,x);
    getch();
}
```

Output $a = 10$ $b = 9$ $c = 90$ $x = 11$

32

Flowchart



SD
07/01

Practical - 3

Aim:- Program if else statement.

Program 1:- Even and odd

Code

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

void main()
{
    int n;
    printf("n enter the value");
    scanf("%d", &n);
    if (n % 2 == 0)
        printf("It is even");
    else
        printf("It is odd");
    getch();
}
```

Program 2:- leap year

#include <stdio.h>

#include <conio.h>

void main()

{

```
int year;
printf("enter the year");
scanf("%d", &year);
if (year % 4 == 0)
    printf("It is a leap year");
else
    printf("It is not leap year");
getch();
```

Q8
Output ~ enter the value 25
It is odd.

Output

Enter the year 2021
it is not leap year

116

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a,b,c;
    printf("enter 3 no.");
    scanf("%d%d%d", &a, &b, &c);
    if((a>b) & (a>c))
        printf("in a is greater");
    else if ((b>a) & (b>c))
        printf("in b is greater");
    else
        printf("in c is greater");
    getch();
}
```

Code

```
#include <stdio.h>
#include <conio.h>
void main()
{
    char ch;
    printf("enter an alphabet");
    scanf("%c", &ch);
    if(ch=='a' || ch=='A' || ch=='e' || ch=='E' || ch=='o' ||
       ch=='O' || ch=='i' || ch=='I' || ch=='u' || ch=='U')
        printf("in entered character is vowel");
    else
        printf("in entered is consonant");
    getch();
}
```

Output

enter 3 nos: 3

7

1

b is greater

Output

Enter the alphabet: g.

entered character consonant

Code:

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

void main()
{
    int a,b,c;
    printf("Enter value of a,b,c:");
    scanf("%d %d %d", &a, &b, &c);
    if (a>b)
    {
        if (a>c)
        {
            printf("\n%d is largest",a);
        }
        else
        {
            printf("\n%d or %d is largest",a,c);
        }
    }
    else
    {
        if (b>c)
        {
            printf("\n%d or %d is largest",b);
        }
        else
        {
            printf("\n%d is largest",c);
        }
    }
}
```

BB

Output

Enter a single digit : 2

two

c

getchar();
}

Code

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, r, choice;
    clrscr();
    printf("Enter your choice");
    printf("\n1. Addition");
    printf("\n2. Subtraction");
    printf("\n3. Multiplication");
    printf("\n4. Division");
    printf("\n5. Exit");
    scanf("%d", &choice);
    if (choice >= 1 & choice <= 4)
    {
        printf("Enter value of a & b:");
        scanf("%d %d", &a, &b);
        case 1:
            r = a+b;
            printf("\n%d + %d = %d", a, b, r);
            break;
        case 2:
            r = a-b;
            printf("\n%d - %d = %d", a, b, r);
            break;
```

output-

Enter your choice

2

Enter value a & b 8 12

-4

case 3;

$r = a * b;$

printf ("%d * %d = %d", a, b, r);

break;

case 4;

$r = a \% b;$

printf ("%d %p %d", a, b, r);

break;

default;

printf ("in no operation");

break;

2

getch();

80
14101

58

Practical No:-4

Code Aim:- Programs on conditional statement.

Program to print no b/w 1 to 100.

Code:-

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int i;
    for (i=2; i<=100; i+=2)
    {
        printf("%d\n", i);
    }
    getch();
}
```

Program to print the following output.

12
123
1234
12345

Code

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int i, k;
}
```

Outlook

1
2
3
4
5
6
7
8
~~9 10~~

Outlook

1
2
3
4
5
6
~~7 8 9 10~~

```

j = 1;
while (i <= 5)
{
    k = 1;
    while (k <= i)
    {
        printf("%d ", j);
        ++k;
    }
    printf("\n");
    ++i;
}

```

Form of odd Number program

Code:

```

#include <stdio.h>
#include <conio.h>
Void main()
{
    int s, n, x, sum;
    printf("Enter the no.");
    scanf("%d", &n);
    s = 1;
    sum = 0;
    {
        x = s * 2 - 1;
        sum = sum + x;
        s = s + 1;
    }
    printf("Sum = %d", sum);
}
```

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Output

Enter the no: 10

The sum of all odd no are 25

```

if (n>=1)
{
    sum = sum + i;
    i++;
}
while (i<=n);
printf ("%d sum = ... %d", sum)
getch();
}

```

Program to obtain following output.

Code

```

*****
 * * *
 * * * *
 * * * * *
 * * * * *

```

```

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

void main()
{
    int i, j;
    for (i = 1; i <= 5; i++)
    {
        for (j = 1; j <= i; j++)
        {
            printf ("*");
        }
        printf ("\n");
    }
    getch();
}

```

Program: 5

Code

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int a,b,f,i;
    clrscr();
    a=1;
    b=0;
    for (i=3; i<=20; i++)
    {
        f=a+b;
        printf("%d",b);
        a=b;
        b=f;
    }
    getch();
}
```

89

output

1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584

Tactical - 5

43

Arrays

- Single dimensional.

- Two dimensional.

datatype array name [size]

datatype array name [C][R]

Code

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    int data[5] = {2, 6, 10, 11, 1};
    int i;
    for (i=0; i<5; i++)
    {
        printf("Position:[%d]: Value=%d", i, data[i]);
    }
    getch();
}
```

Output:

Position: [0]: value = 2

Position: [1]: value = 6

Position: [2]: value = 10

Position: [3]: value = 1

Position: [4]: value = 1

2) Sum of 5 numbers.

Code:

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    clrscr();
    int i, num[5], sum=0;
    printf("enter the element into arrays:");
    for (i=0; i<5; i++)
        scanf ("%d", &num[i]);
    printf ("unsorted array elements are:");
    for (i=0; i<5; i++)
        printf ("%d \t", num[i]);
    for (i=0; i<5; i++)
        sum = sum + num[i];
    printf ("in sum of elements up: %d", sum);
    getch();
}
```

3) largest no.

#include

#

Void

{

int i, num[10], l;

printf("enter the elements into arrays:");

output

Enter the elements into array : 2

3

4

4

5

entered array elements are 2 3 4 4 5
sum of element is : 18.

```

for (i=0; i<10; i++)
    scanf ("%d", &num[i]);
    l = num[0];
for (i=1; i<10; i++)
{
    if (l < num[i])
        l = num[i];
}
printf ("largest no. is : %d", l);
getch();
}

```

3) Find the number of positive no. in the array.

code:

```

#include <stdio.h>
#include <conio.h>
Void main()
{
    int i, num[10], p;
    printf ("Enter the element into array:");
    for (i=0; i<10; i++)
        scanf ("%d", &num[i]);
    p = 0;
    for (i=1; i<10; i++)
    {
        p = p + 1;
    }
}

```

Output

Enter the value into array -

-55

22

8

-3

4

11

16

-19

20

No. of Positive no : 6

printf ("\\n no. of positive no. present in the
given array is %d", p);
getch();
}

Program :- To find odd no. present
Code.

Code

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int i, num[10], p;
    clrscr();
    printf ("Enter the value into array");
    for (i=0; i<10; i++)
        scanf ("%d", &num[i]);
    p = 0;
    for (i=0; i<10; i++)
    {
        if (num[i] % 2 == 1)
            p = p + 1;
    }
    printf ("\\n no. of odd no. present: ", p);
    getch();
}
```

Enter the value onto array 1

2
3
4
5
6
7
8
9
10

~~No. of odd no present = 5~~

Program 6: Program to print in ascending order.

Code

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int i, j, num[5], t;
    printf("enter the values into array");
    for (i=0; i<5; i++)
        scanf("%d", &num[i]);
    for (i=0; i<5; i++)
    {
        for (j=i+1; j<5; j++)
        {
            if (num[i]>num[j])
            {
                t = num[i];
                num[i] = num[j];
                num[j] = t;
            }
        }
    }
    printf("sorted array");
    for (i=0; i<5; i++)
    {
        printf("\n %d", num[i]);
    }
    getch();
}
```

Output

Enter the value into array array 2

4
6
8
9
1

Sorted array 1 2 4 6 9

Program to addition of matrix.

Code

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

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

```
Void main()
```

```
{
```

```
int m[3][3], n[3][3], sum[3][3];
```

```
int x,y;
```

```
printf("Enter the element of matrix m:");
```

```
for (x=0; x<3; x++)
```

```
{
```

```
for (y=0; y<3; y++)
```

```
{
```

```
scanf("%d", &m[x][y]);
```

```
}
```

```
}
```

```
printf("Enter the element of matrix n:");
```

```
for (x=0; x<3; x++)
```

```
{
```

```
scanf("%d", &n[x][y]);
```

```
}
```

```
for (x=0; x<3; x++)
```

```
{
```

```
for (y=0; y<3; y++)
```

```
{
```

```
sum[x][y] = m[x][y] + n[x][y];
```

```
}
```

```
}
```

```
printf("In matrix sum:");
```

output

enter the element of matrix m: 5

34
3
2
3
4
5
56
6

enter the element of matrix n: 7

5
4
3
3
2
3
4
5

matrix sum: 12 39 7

5
8
6 0 6
11

```

for(x=0; x<3; x++)
{
    for(y=0; y<3; y++)
        printf("%d", sum[x][y]);
    printf("\n");
}
getch();
}

```

Program for sum of matrix.

Code

```

#include <stdio.h>
#include <conio.h>
Void main()
{
    clrscr();
    int x[3][3], y[3][3], z[3][3];
    int i, j, k, t;
    printf("Enter element of matrix x :- ");
    for (i=0; i<3; i++)
    {
        for (j=0; j<3; j++)
            scanf("%d" & x[i][j]);
        t
    }
    printf("Enter element of matrix y :- ");
    for (i=0; i<3; i++)
    {
        for (j=0; j<3; j++)
            scanf("%d" & y[i][j]);
        t
    }
    for (i=0; i<3; i++)
    {
        for (j=0; j<3; j++)
            z[i][j] = x[i][j] + y[i][j];
    }
    printf("Sum of matrix x and y is :- \n");
    for (i=0; i<3; i++)
    {
        for (j=0; j<3; j++)
            printf("%d ", z[i][j]);
        printf("\n");
    }
}

```

```

for (x=0; x<3; x++)
{
    for (c=0; c<3; c++)
    {
        scanf ("%d", &Y[x][c]);
    }
}

for (x=0; x<3; x++)
{
    for (c=0; c<3; c++)
    {
        t = 0
        for (k=0; k<3; k++)
        {
            t = t + X[x][k] * Y[k][c];
        }
        Z[x][c] = t;
    }
}

printf ("In matrix Z: ");
for (x=0; x<3; x++)
{
    for (c=0; c<3; c++)
    {
        printf ("%d", Z[x][c]);
    }
}
printf ("\n");
getch();

```

Practical-6

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Aim:- Programs using string function.

Program 1:- To find string of words using scanf() :-

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

void main()
{
    clrscr();
    char w1[20], w2[20], w3[20], w4[20];
    printf("\n Enter list of word:");
    scanf("%s %s %s %s", &w1, &w2, &w3, &w4);
    printf ("\n word1 = %s", w1);
    printf ("\n word2 = %s", w2);
    printf ("\n word3 = %s", w3);
    printf ("\n word4 = %s", w4);
    getch();
}
```

Program 2:- Read line of text using putchar:-

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

void main()
{
    clrscr();
    char city[6] = "Paris";
    int k;
    for (k=0; k<5; k++)
        putchar(city[k]);
```

~~#~~ Output

Enter text of word: My name is Nishant

word 1 = My

word 2 = name

word 3 = is

word 4 = Nishant

~~#~~ Output

P

a

t

i's

```

{
    putchar ((city [k]));
    pointf ("\n");
}
getch();
}

```

Program 3:- Read line of text using getch().

```

#include <stdio.h>
#include <conio.h>
#include <string.h>
void main()
{
    clrscr();
    char l[20];
    printf ("Enter line of text");
    getch();
    puts (l);
    getch();
}

```

Program 4: Read line of text using getchar().

```

#include <stdio.h>
#include <conio.h>
#include <string.h>
Void main()
{
    clrscr();
    char l[20], p;

```

Output 3

Enter line of text : Hello world
Hello world.

4

```
int k = 0;
printf ("Enter line of text: ");
do {
    p = getchar();
    s[k] = p;
    ++k;
}
while (p != '\n');
s[k] = '\0';
printf ("In %s", s);
getchar();

```

Output

Enter line of text: My name is Nishant.

My name is Nishant

Program 5: Reverse a string using structures.

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
void main()
{
    clrscr();
    char h[10];
    printf("In Enter string");
    scanf("%s", h);
    //strcpy(h);
    printf("In Reverse string : %s", h);
    getch();
}
```

SO
Hilov

~~# Output~~

Enter string = Akash

Reverse string: hsaka

1.5

Practical -7

Aim:- Programs using user-defined function.

Program 1:- Area & circumference of a circle.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    circle();
    getch();
}

void circle(void)
{
    int r;
    float a, c;
    printf("Enter value of r: ");
    scanf("%d", &r);
    a = 3.14 * r * r
    c = 2 * 3.14 * r
    printf("Area = %f", a)
    printf("circumference = %f", c)
}
```

output

Enter value of $\pi \approx 3.14$

Area = 78.500000

Circumference: 31.400000

Program 2:- Print digit of the entered number:

```
#include <stdio.h>
#include <conio.h>
int get-no(void)
void main()
{
    clrscr();
    int m;
    m = get-no();
    printf ("Entered num = %d", m);
    getch();
}
int get-no(void)
{
    int num;
    printf ("Enter num:");
    scanf ("%d", &num);
    return (num);
}
```

^{NC}
Output:-

Enter num: 5

Entered num: X

Program 3:- 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

Enter number : 31

sum of digit = 4.

56

Program 4:- Average of 3 Centered 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 ("nEnter value of x, y, z");
```

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

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

```
getch();
```

```
}
```

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

```
{
```

```
int s;
```

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

```
average (s)
```

```
}
```

```
Void average (int sum)
```

```
{
```

```
float avg;
```

```
avg = sum / 3.0;
```

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

```
}
```

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Output

Final value of x, y, z = 4 6 7

Average = 6.333

Program 5:- Factorial of number using RECURSION

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

~~The output~~

Enter value of x: 4

Factorial of 4 = 24

12
1102

Practical = 8

Aim:- Programs on Structures.

Program 1:- Student structure.

```
#include <stdio.h>
#include <conio.h>
struct student
{
    int roll_no;
    char name[20];
    int total;
};

Void main()
{
    struct student x;
    clrscr();
    printf("Enter name, rollno & total of student:");
    scanf("%s %d", &x.roll_no, &x.name, &x.total);
    printf("Roll no = %d", x.roll_no);
    printf("Name = %s", x.name);
    printf("total = %d", x.total);
    getch();
}
```

Output

Enter rollno, name and total of student : 1828

Nishant Tiwari

100

Roll No: 1828

Name: Nishant Tiwari

total: 1000

~~#~~Program 2:- Employee comparison.

```
#include <stdio.h>
#include <conio.h>
struct employee
{
    int eno, salary;
};

void main()
{
    struct employee n, y;
    printf("In Enter eno and salary:");
    scanf("%d %d", &n.eno, &n.salary);
    printf("In Enter eno and salary:");
    scanf("%d %d", &y.eno, &y.salary);
    if (n.eno == y.eno & n.salary == y.salary)
    {
        printf("both are equal");
    }
    else
        printf("both are unequal");
    getch();
}
```

Output

Enter eno and salary: 5 20000

Enter eno and salary: 5 20000

both are equal

Enter eno and salary: 5 15000

Enter eno and salary: 5 25000

both are equal.

Out

Enter name, price & gty:

apple 20 5

mango 15 3

banana 50 9

cherry 30 7

grapes 30 15

name = apple, price = 20, gty = 5

name = mango, price = 15, gty = 3

name = banana, price = 50, gty = 9

name = cherry, price = 30, gty = 7

name = grapes, price = 30, gty = 15

Program 3: Fruit structure.

```

#include <stdio.h>
#include <conio.h>
struct fruit
{
    char name[20];
    int price, gty, total;
};

void main()
{
    struct fruit f[5];
    int k;
    clrscr();
    printf("\n Enter name, price, & gty :");
    for (k = 0; k < 5; k++)
    {
        scanf("%s %d %d", &f[k].name, &f[k].price, &f[k].gty);
        f[k].total = f[k].price * f[k].gty;
    }
    for (k = 0; k < 5; k++)
    {
        printf("\n name = %s , price = %d , gty = %d ", f[k].name,
               f[k].price, f[k].gty, f[k].total);
    }
    getch();
}

```

Program 4: Cricketers & their teams

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

struct cricket
{
    char pname[20], tname[20];
    int average;
};

void main()
{
    clrscr();
    struct cricket p[5], t;
    int i, k, n;
    printf("Enter records of 5 players");
    for (i = 0; i < 5; i++)
    {
        scanf("%s %s %d", &p[i].name, &t.name, &p[i].average);
        for (k = 0; k < 4; k++)
        {
            if (strcmp(p[i].name, p[k].name) == 0)
            {
                t = p[i];
                p[i] = p[k];
                p[k] = t;
            }
        }
    }
    printf("Player name\n");
    for (i = 0; i < 5; i++)
        printf("%s %s %d\n", p[i].pname, p[i].tname, p[i].average);
    getch();
}
```

File output

Enter records of 5 players.

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MS Dhoni	India	100
Virender Sehwag	India	100
Rohit Sharma	India	100
Shikhar Dhawan	India	100
Rahane	India	100

Teamwise player names.

MS Dhoni	India	100
Virender Sehwag	India	100
Rohit Sharma	India	100
Shikhar Dhawan	India	100
Rahane	India	100

#Program 5:- Structure with structure.

```

#include <stdio.h>
#include <conio.h>
struct employee
{
    int salary;
};

struct employee
{
    int id;
    char name[10];
};

main()
{
    clrscr();
    getch();
    struct employee s = {22, "prakash", 1500};
    printf("My Roll no = %d \t Name = %s \t salary = %d",
        s.id, s.name, s.id * salary);
}

```



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#Output:-

Roll No - 28 Name = RAJ Salary = 5000

ca

Practical-9

Aim:- Program on pointers in c-language

#Program:1>

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    int a=12, b=4, x, y, *p, *q;
    p = &a;
    q = &b;
    x = *p * *q - 6;
    y = 4 * (*p - *q) + 10;
    printf ("\n a=%d", a);
    printf ("\n b=%d", b);
    printf ("\n x=%d", x);
    printf ("\n y=%d", y);
    getch();
}
```

Output

a = 12

b = 4

x = 42

y = 42

#Program 2:-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    int x[5] = {10, 20, 30, 40, 50};
    int *p, i, sum = 0;
    p = &x[0];
    for (i = 0; i < 5; i++)
    {
        sum = sum + *p;
        p = p + 1;
    }
    printf ("\n sum=%d", sum);
    getch();
}
```

~~Program 3: Pointers as function argument.~~

```
#include <stdio.h>
#include <conio.h>
void change (int *p);
void main()
{
    clrscr();
    int x = 20;
    change (&x);
    printf ("\n x=%d", x);
    getch();
}
```

~~FF output~~

$$\sum_{i=1}^m b_i$$

~~FF output~~

$$x = 30$$

23
Void main (int *p)

{

*p = *p + 10;

}

#Program 4:-

#include <stdio.h>

#include <conio.h>

Void exchange (int *a, int *b);

Void main ()

{

int x, y;

x = 10;

y = 20;

printf ("In Before exchange x=%d d y=%d d", x, y);
exchange (&x, &y);

printf ("In After exchange x=%d d, y=%d d, n, y);
getch();

Void exchange (int *a, int *b)

{ int t;

t = *a;

*a = *b;

*b = t;

}

Output

Before exchange $x = 10 \quad y = 20$

After exchange $x = 20 \quad y = 10$

Program : \Rightarrow Arrange array in ascending order
using pointers.

```

#include <stdio.h>
#include <conio.h>
void main()
{
    int arr[5] = {17, 15, 18, 12, 14};
    int *p, *q, i, k, t;
    clrscr();
    p = &arr[0];
    for (i = 0; i < 4; ++i)
    {
        q = p + i;
        for (k = i + 1; k = 4; ++k)
        {
            if (*p > *q)
            {
                t = *p;
                *p = *q;
                *q = t;
                ++q;
            }
            ++p;
        }
    }
    printf ("\n Sorted array");
    p = &arr[0];
    for (i = 0; i < 5; ++i)
    {
        printf ("\n %d", *p);
        p++;
    }
    getch();
}

```

By
03/03

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~~#Output~~

Sorted array

12

14

15

17

18

Practical -10

~~Aim~~ Program on file handling.

Program: → Open file → Write & close file.

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
int main()
{
    FILE fp;
    char data[50];
    printf("opening the file test. c in write mode");
    fp = fopen ("test.c", "w");
    if (fp == NULL)
    {
        printf("could not open file test.c");
        return 1;
    }
    printf("\nEnter some text from keyboard to write\n");
    while (1)
    {
        gets(data);
        fputs (data, fp);
        fputs ("\n", fp);
    }
    printf ("closing the file test.c");
    fclose (fp);
    return 0;
}
```

~~#include~~

Opening the file text.c in write mode

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Enter some text from keyboard in file text.c

Hi, How are you doing?

closing the file text.c

Program :- Using putw() & getw() function

```
#include <stdio.h>
#include <conio.h>
int main()
{
    FILE *fp;
    int i = 1, j = 2, k = 3, num;
    fp = fopen("text.c", "w");
    putw(i, fp);
    putw(j, fp);
    putw(k, fp);
    fclose(fp);
    fp = fopen("text.c", "r");
    while (getw(fp) != EOF)
```

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Output
Data in resp. file is
1
2
3