PERFORMANCE

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THAKUR COLLEGE OF SCIENCE & COMMERCE

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SEMESTER I UID No. _____

Class F.Y.B.Sc.(C.S) Roll No. 1826 Year 2019-20

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who has worked for the year 2019-20 in the Computer Laboratory.

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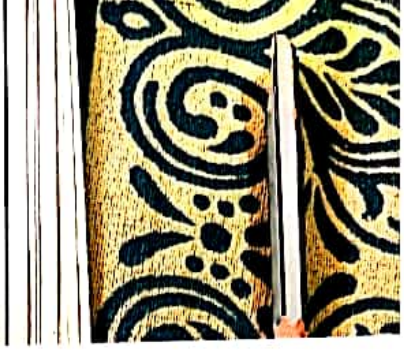
Head of Department

Date : 05/10/19

Examiner



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Output :-

Program 1

Enter the number (l) = 7

Enter the number (b) = 58

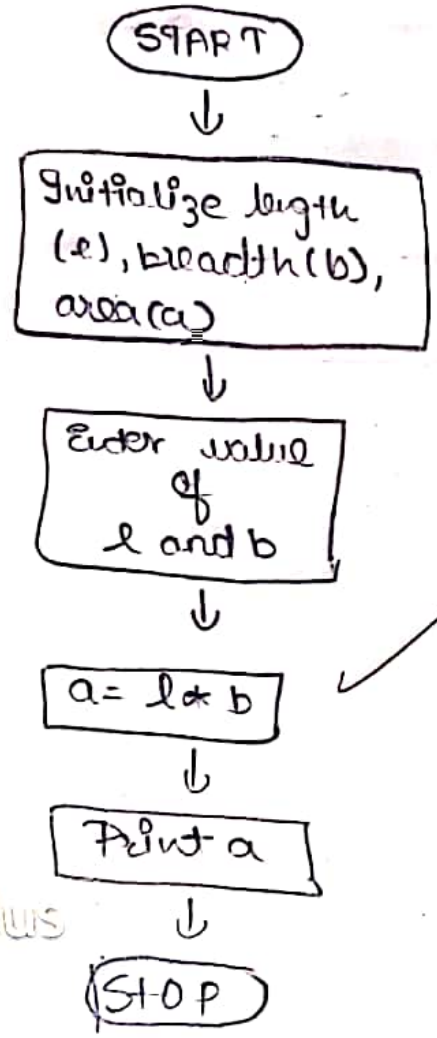
The area is 400

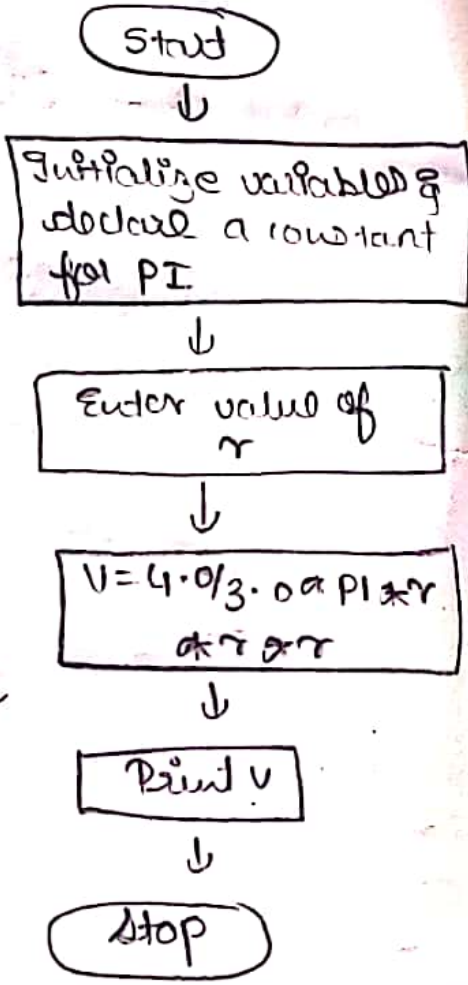
Program 2

Enter the radius : 7

The value is 1436.02673

PROGRAM-1





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Program 2:- Volume of sphere

```
# include <stdio.h>
# include <conio.h>
void main()
{
  clrscr();
  float r,v,PI;
  printf("Enter the radius:");
  scanf("%f", &r);
  PI = 3.14;
  v = 4.0/3.0 * PI * r * r * r;
  printf("The volume is : %f", v);
  getch()
}
```

Program 3:- avg of three numbers

```
# include <stdio.h>
# include <conio.h>
void main()
{
  clrscr();
  float a,b,c,avg;
  printf("Enter the number:");
  scanf("%f %f %f", &a, &b, &c);
  avg (a+b+c)/3.;
  printf("Avg: %f", avg);
  getch();
}
```


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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:");
  scanf("%f",&c);
  f=((c*9/5)+32);
  printf("Farenheit: %f",f);
  getch();
}
```

Program 5:- Convert temperature from farenheit to celsius.

```
#include <conio.h>
#include <stdio.h>
void main()
{
  clrscr();
  float c,f;
  printf("Enter the value of farenheit:");
  scanf("%f",&f);
  c=(5.0/9.0)*(f-32);
  printf("Celsius: %f",c);
  getch();
```


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AIM:- Programs on operators and expressions:

Program 1

Algorithm

1) Initialize four variable with data type (int).
2) Clear the screen.
3) Store the value 25 in a & 10 in b.
4) Print the value of a & b.
5) Do the expression c = ++a - b
6) Do not increment b & add to a, store it in d
7) Print the value of a, b, c, d.
8) Do a % b and store it in c.
9) Do a/b and store it in d
10) Print the value of c and d.

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```
#include <stdio.h>
#include <conio.h>
void main()
{
  float a,b,c;
  a=8;
  b=15;
  c=3;
  printf("\n a=%of , b=%of , c=%of ", 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 x=%of , y=%of , z=%of ",x,y,z);
  getch();
}
```

OUTPUT :-

a= 8.000000 , b = 15.000000 , c= 3.000000

x = 8.000000 , y = 5.000000 , z = 2.000000

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PROGRAM :- 2.

Algorithm :

1) Initialize variable a,b,c with value a=8, b=15, c=3
2) Find the value of a,b,c.
3) Perform a-b|3+c@2-1 and store in x
4) Perform a-b|(3+c)@(2-1) and store in y
5) Perform a-(b|(3+c)@2)-1 and store in z.
6) Print the value of x,y,z.

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Program - 3:

Algorithm :-

1) Initialize a, b, c, ans with data type integer.
2) Clear the screen.
3) Store the value in a=6, b=4, c=1
4) Perform expression ++a && b++ || c++ ; & store the val
5) Print the value for a, b, c, ans.

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(iii)

```
#include <stdio.h>
#include <conio.h>
void main()
{
  int a,b,c,x;
  clrscr();
  x = 10;
  a = x++;
  b = --x;
  c = x++ * --b;
  printf("a = %d, b = %d, c = %d, x = %d", a,b,c,x);
  getch();
}
```

OUTPUT :-

a = 10

b = 9

c = 90

x = 11

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PRACTICAL - 3.

AIM :- Program on decision making and branchi

Program 1 :- check whether number is odd o even.

```
# include <stdio.h>
# include <conio.h>
void main()
{
  clrscr();
  int n, r;
  printf ("\n Enter value of n:")
  scanf ("%d", &n);
  r = n%2;
  if (r==0)
    printf ("\n %d is odd", n);
  else
    printf ("\n %d is even", n);
  getch();
}
```

OUTPUT :-

Enter value of n : 12
12 is even.

Enter value of n : 1
1 is odd.

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Program 3:- check whether entered alphabet is a vowel or consonent.

```
# include <stdio.h>
# include <conio.h>
void main()
{
clrscr();
char ch;
printf ("\n Enter the alphabet:");
ch = getchar();
if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' ||
    ch == 'u' || ch == 'A' || ch == 'E' || ch == 'I' ||
    ch == 'O' || ch == 'U')
{
printf ("\n %c is a vowel", ch);
}
else
   printf ("\n %c is a consonent", ch);
getch();
}
```

OUTPUT :-

Enter the alphabet : i
i is a vowel

Enter the alphabet s
s is a consonent

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Program 5:- Program to enter single digit decimal number from keyboard and print that digit in word form.

```
# include <stdio.h>
# include <conio.h>
void main()
{
  clrscr();
  int n;
  printf("\n Enter single digit decimal no:");
  scanf("%d",&n);
  if(n==0)
  printf("\n zero");
  else if(n==1)
  printf("\n one");
  else if(n==2)
  printf("\n Two");
  else if(n==3)
  printf("\n Three");
  else if(n==4)
  printf("\n four");
  else if(n==5)
  printf("\n five")
  else if(n==6)
  printf("\n Six");
  else if(n==7)
  printf("\n Seven");
```

Program 9:- Program to perform addition, subtraction, & multiplication using switch case.

→
```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
int a,b,c,choice;
printf("\n Select 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("\n Enter value of a and b:");
scanf("%d %d", &a, &b);
}
switch(choice)
{
CASE1:
r = a+b;
printf("\n%d + %d = %d", a,b,r);
break;
CASE2:
r = a+b;
printf("\n%d - %d = %d", a,b,r);
break;
```


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28 PRACTICAL - 04

Aim :- Program to understand looping statements

Program 1 :- Program to print even numbers from 1 to 100.

```
#include <stdio.h>
#include <conio.h>
void main()
{
  int i;
  clscr();
  for (i = 2; i<= 20; i = i+2)
  {
    printf ("%d \t", i);
  }
  getch();
}
```

OUTPUT :-

2
4
6
8
10
12
14
16
18
20

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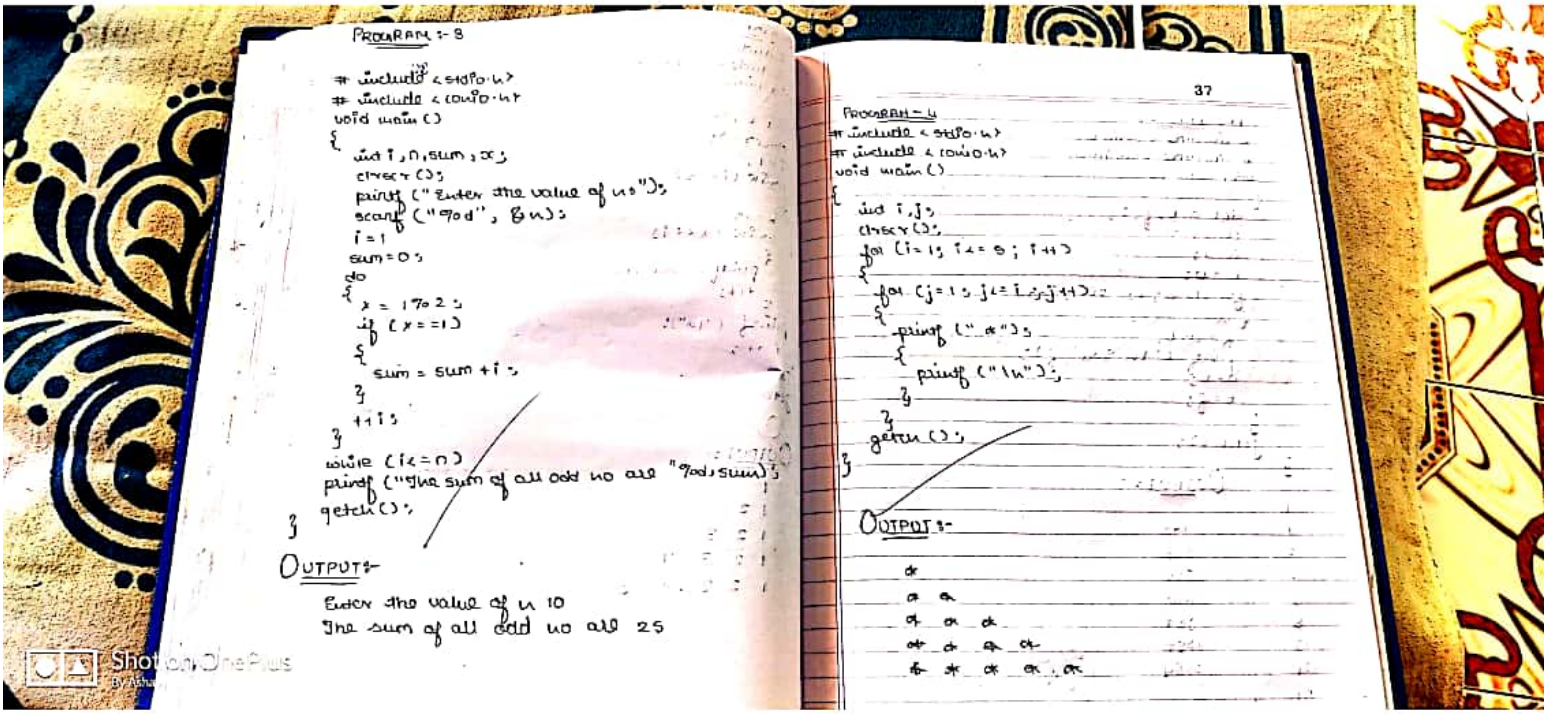

PROGRAM :- 8

```
#include <stdio.h>
#include <conio.h>
void main()
{
  int i,n,sum,x;
  clrscr();
  printf("Enter the value of n:");
  scanf("%d",&n);
  i=1
  sum=0;
  do
  {
   x = i%2;
   if (x==1)
   {
    sum = sum+i;
   }
   ++i;
  }
  while (i<=n)
  printf("The sum of all odd no are "%od,sum);
  getch();
}
```

OUTPUT:-

```
Enter the value of n 10
The sum of all odd no all 25
```

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PROGRAM - 4

```
#include <stdio.h>
#include <conio.h>
void main()
{
  int i,j;
  clrscr();
  for (i=1; i<=5; i++)
  {
   for (j=1; j<=i; j++)
   {
    printf("*");
    {
     printf("\n");
    }
   }
  getch();
}
```

OUTPUT:-

```
*
* *
* * *
* * * *
* * * * *
```


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PROGRAM-5:-

```
#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("\n%d",f);
    a=b;
    b=f;
  }
  getch();
}
```

OUTPUTS -

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

03/03

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PROGRAM-2: WAP in C to find the largest of the 10

```
#include<stdio.h>
#include<conio.h>
void main()
{
int i, num[10], l;
clrscr();
printf("\n Enter 10 values in arrays:");
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("\n Largest number is %d", l);
getch();
}
```


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PROGRAM-4: WAP in C to find the odd numbers available in an array.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    int i, num[10];
    printf("Enter the values 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 number is %d", p);
    getch();
}
```

OUTPUT

Enter the values in the array
2 3 4 5 6 7 8 8 9
No. of odd numbers is 5.

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OUTPUT:

Enter the value into array 2

4
6
9
1

Sorted array: 1 2 4 6 9

OUTPUT -[6]

Enter elements of matrix x: 2

1
2
3
4
5
6
7
8

Enter elements of matrix y: 3

2
2
2
2
2
2
2
2

Matrix :

12	10	10
27	24	24
48	42	42

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


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

OUTPUT:-

Enter the elements of matrix m : 3

4
5
6
7
8
9
2
3

Enter the elements of matrix n : 2

3
4
5
6
7
8
9
10

03/07

Matrix Sum:

5	7	9
11	13	15
17	11	3

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Program 2 :- WAP in C to print the entered character

```
#include <stdio.h>
#include <conio.h>
void main ()
{
  char a;
  clrscr();
  printf (" Enter a character:");
  a = getchar();
  printf ("\n the character is :");
  putchar(a);
  getch();
}
```

OUTPUT:-

Enter a character: a
The character is : a

Program 3 :- WAP in C to enter a string :

```
#include <stdio.h>
#include <conio.h>
void main()
{
  char [30];
  clrscr();
  printf (" Enter a string:");
  get(a);
```

```
printf ("\n The entered string is:");
puts();
}
```

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OUTPUT:

Enter a string : ASM
The entered string is : ASM

PROGRAM 4 :- WAP in C to print the string in vertical order.

```
#include <stdio.h>
#include <conio.h>
void main ()
{
  char name[10] = " my name";
  clrscr();
  printf (" My name is:");
  for (int i = 0; i < 10 ; i++);
  {
    printf ("\n");
    putchar (name[i]);
  }
  getch();
}
```

OUTPUT :-

My name is
m
y
n
a
m
e

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Program 1 :- Write a C program to calculate area and circumference of a circle.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    circle();
    getch();
}
void circle (void)
{
    int r;
    float area, circum;
    printf ("Enter the radius:");
    scanf ("%d", &r);
    area = 3.14 * r * r;
    circum = 2 * 3.14 * r;
    printf ("\n Area: %f", area);
    scanf
    printf ("\n Circumference = %f", circum);
    getch();
}
```

OUTPUT

Enter the radius: 5
Area: 78.50000
Circumference: 3.140000

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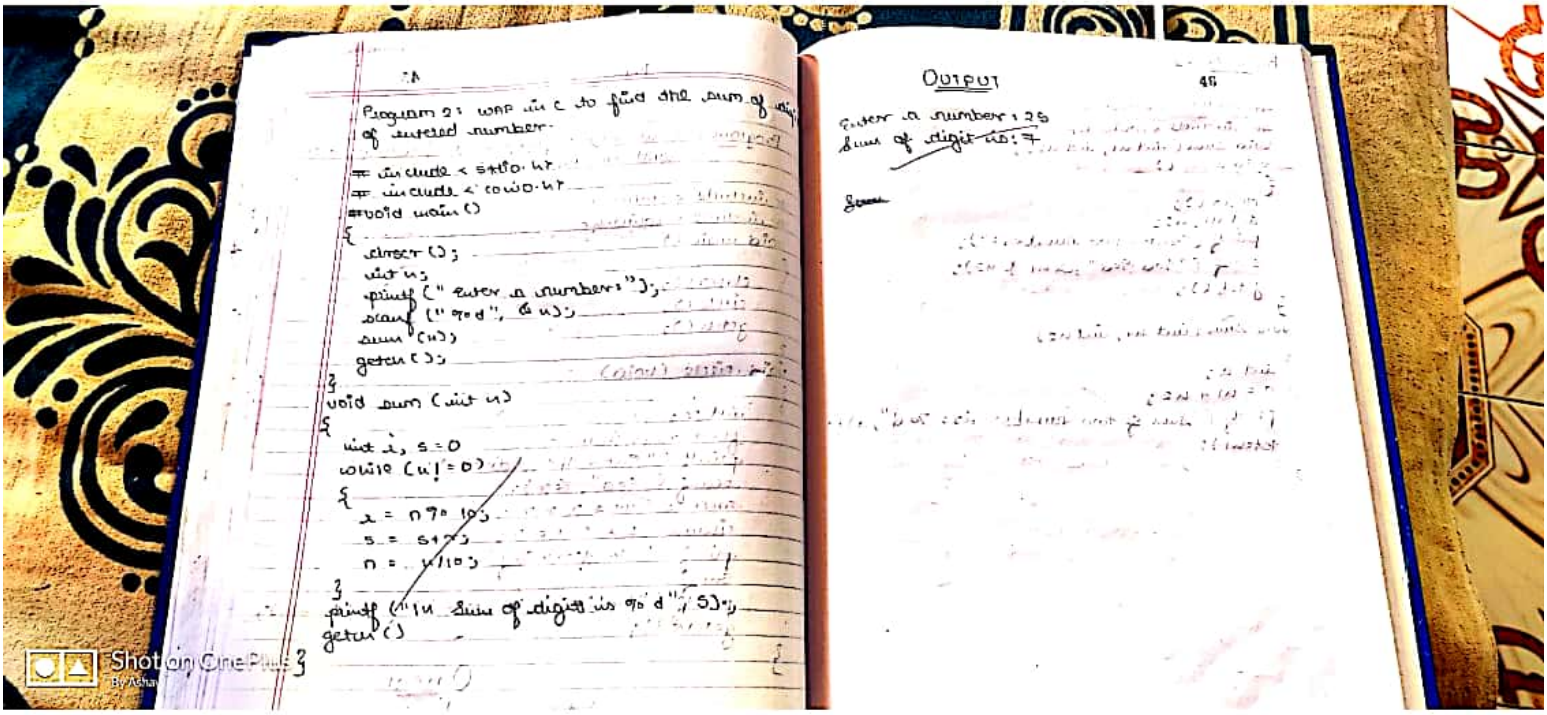

Program 2: WAP in C to find the sum of digits of entered number.

```
#include <stdio.h>
#include <conio.h>
void main()
{
  clrscr();
  int n;
  printf("Enter a number:");
  scanf("%d", &n);
  sum(n)
  getch();
}
void sum(int n)
{
  int i, s=0
  while(n!=0)
  {
    r = n%10;
    s = s+r;
    n = n/10;
  }
  printf("\n Sum of digits is %d", s);
  getch()
}
```

Output

Enter a number: 25
Sum of digit is: 7

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PROGRAM-3]

(i)

```
#include <stdio.h>
#include <conio.h>
void sum(int n1, int n2);
void main()
{
  clrscr();
  int n1, n2;
  printf("Enter two number:");
  scanf("%d %d", &n1 & n2);
  getch();
}
void sum(int n1, int n2)
{
  int a;
  a = n1 + n2;
  printf("Sum of two number is: %d", a);
  getch();
}
```


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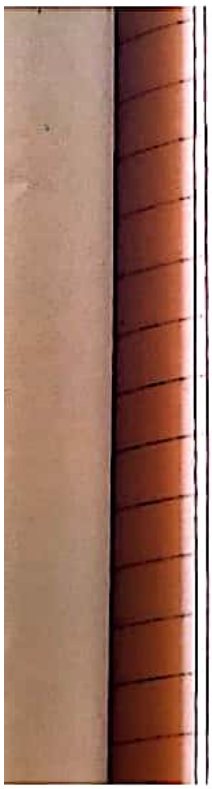
PROGRAM-4 WAP in C to calculate the total and average of 4 marks.

```
#include <stdio.h>
#include <conio.h>
void total (int m1, int m2, int m3, int m4);
void main ()
{
   int a,b,c,d;
   printf ("Enter four marks:");
   scanf ("%d %d %d %d", &a, &b, &c, &d);
   total (a,b,c,d);
   getch();
}
   int a,b,c,d;
   printf ("Enter four marks:");
   scanf ("%d %d %d %d", &a, &b, &c, &d);
void total (int m1, int m2, int m3, int m4)
{
   int total;
   total = m1 + m2 + m3 + m4;
   printf ("\n The total is: %d", tot);
   average (tot);
}
void average (int tot)
{
   float avg;
   avg = tot (4)
   printf ("\n Average is %f", avg);
   getch();
}
```



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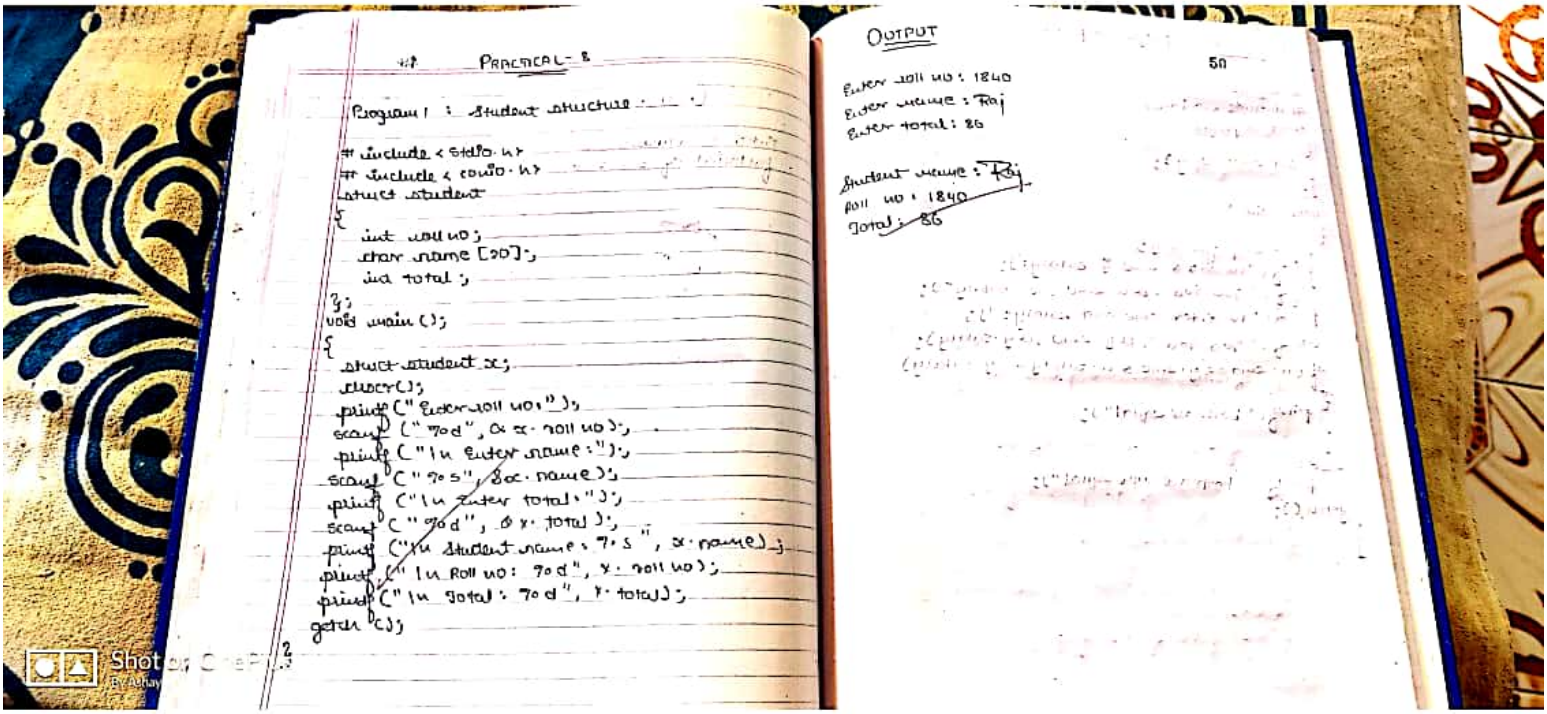

PRACTICAL - 8

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 roll no:");
  scanf("%d", &x.roll no);
  printf("\n Enter name:");
  scanf("%s", &x.name);
  printf("\n Enter total:");
  scanf("%d", &x.total);
  printf("\n Student name : %s", x.name);
  printf("\n Roll no: %d", x.roll no);
  printf("\n Total : %d", x.total);
getch();
```

OUTPUT

50

Enter roll no : 1840
Enter name : Raj
Enter total : 86

Student name : Raj
Roll no : 1840
Total : 86

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Program:2 Employee comparison

```
#include<stdio.h>
#include<conio.h>
struct employee
{
  int eno, salary;
};
void main()
{
  struct employee x, y;
  printf("\n Enter eno & salary:");
  scanf("%d %d", &x.eno, &x.salary);
  printf("\n Enter eno and salary:");
  scanf("%d %d", &y.eno, &y.salary);
  if(x.eno==y.eno && x.salary==y.salary)
  {
    printf("both are equal");
  }
  else:
    printf("both are not equal");
  getch();
}
```

Practical - 3 Fruits

```
#include <stdio.h>
#include <conio.h>
struct fruit
{
  char name[20];
  int price, qty, total;
};
void main()
{
  struct fruit f[5];
  int k;
  clscr();
  printf("\n Enter name, price & qty ");
  for(k=0; k<5; k++)
  {
    scanf("%s %d %d", &f[k].name, &f[k].
          price, &f[k].qty);
    f[k].total = f[k].price * f[k].qty;
  }
  for(k=0; k<5; k++)
  printf("\n name = %s, price = %d, qty = %d"
    f[k].name
    f[k].price, f[k].qty);
  getch();
}
```

OUTPUT :-

Enter name, price & qty apple
45
56
banana
89
56

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OUTPUT :-

Roll no :- 1852

Name :- Ashay

Salary :- 200

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Program-5 Cricketers and their name.

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
struct cricket
{
   char pname[20], tname[20];
   int average;
};
void main()
{
   struct cricket p[5], t;
   int i, k, x;
   printf("\n Enter records of 3 players:");
   for(i=0; i<4; i++)
     {
       scanf("\n %s %s %d \n", &p[i].name
       & p[i].average);
     }
     for(k = i+1; k<5; k++)
       (x = strcmp(p[i].tname, p[k].tname
       if (x>0)
       {
         t = p[i]
         p[i] = p[k];
         p[k] = t; }}}
printf("\n Team player names \n");
for (i=0; i<5; i++)
{
getch();
}
```

OUTPUT:

Enter records of 3 players

MSD	India	100
Virat	India	100
Rohit	India	100

Team	Players	Score
India	MSD	100
India	Virat	100
India	Rohit	100

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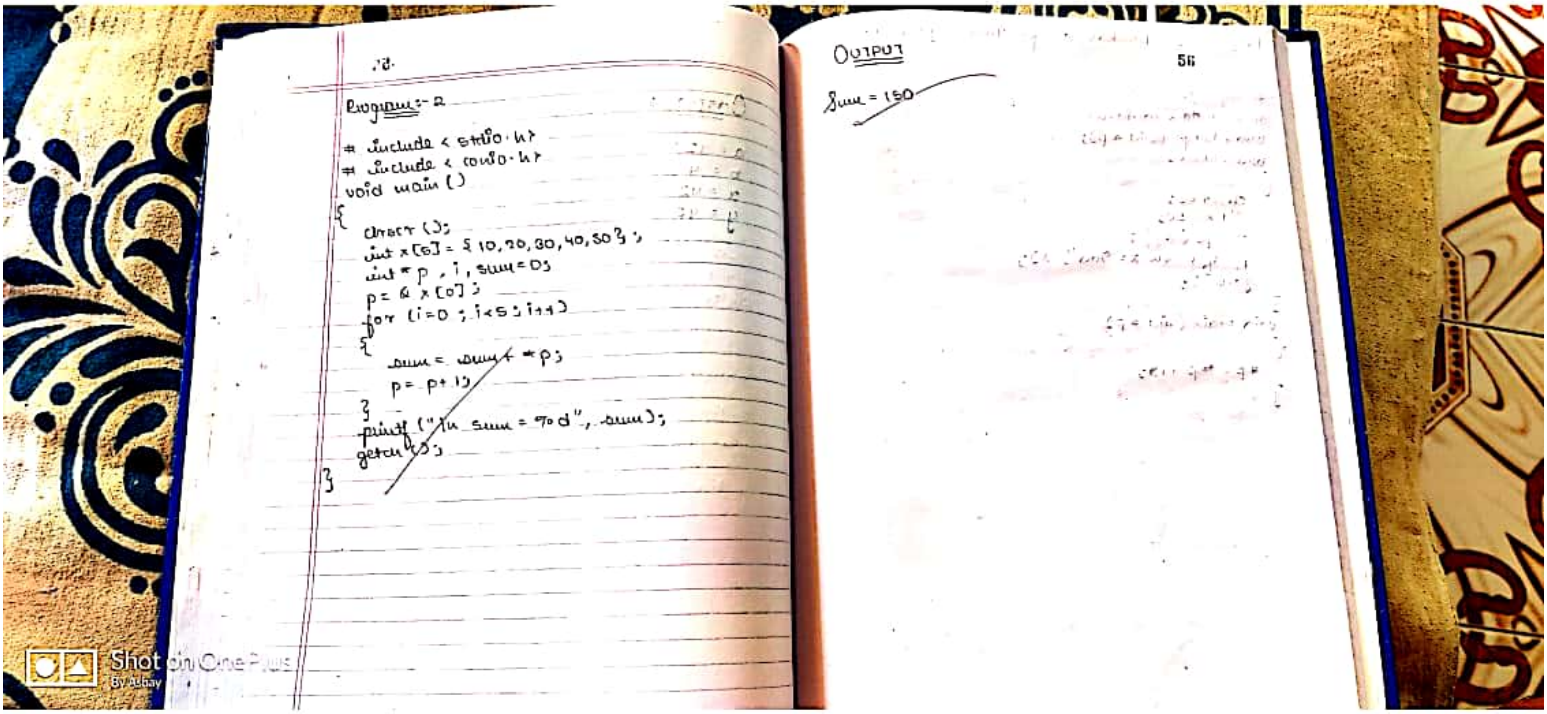
PRACTICAL - 9.

AIM :- Programs on pointers

Program-1

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a=12, b=4, x, y, *p, *q;
    p = &a;
    q = &b;
    x = *p * *q - b;
    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();
}
```



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 ();
}
```

OUTPUT

Sum = 150

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Program-3 Pointers as function argument.

```
#include <stdio.h>
#include <conio.h>
void change (int *p);
void main()
{
    clrscr();
    int x = 50;
    change (&x);
    printf ("\n x = %d", x);
    getch();
}
void main (int *p)
{
    *p = *p + 10;
}
```


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Program-4:

```
#include <stdio.h>
#include <conio.h>
void exchange (int *a, int *b);
void main()
{
    int x, y;
    x = 10;
    y = 20;
    printf ("\n Before exchange x = %d y = %d", x, y);
    exchange (&x, &y);
    printf ("\n after exchange x = %d y = %d", x, y);
    getch();
}
void exchange (int *a, int *b)
{
    int t;
    t = *a;
    *a = *b;
    *b = t;
}
```


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AIM:- Programs on file handling.

Program 1:- 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("\n Enter some text from keyboard to write
                  in file:");
   while (strlen(gets(data)) > 0)
   {
      fputs(data, fp);
      fputs("\n", fp);
   }
   printf("closing the file test.c");
   fclose(fp);
   return 0;
}
```


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Program - 2] fscanf(), fprintf(), ftell(), rewind() functions.

```
#include <stdio.h>
int main()
{
    char name[20];
    int age, length;
    FILE *fp;
    fp = fopen("test.txt", "w");
    fprint(fp, "%s %d", "fresh2refresh", 5);
    length = ftell(pp);
    rewind(pp);
    fscanf(fu, "%d", &age);
    fscanf(fp, "%s", &name);
    fclose(pp);
    printf("Name: %s \n age: %d \n",
            name, age);
    printf("Total no. of character in file
            is %d", length);
    return 0;
}
```


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