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Practical :- 1

* Write a C Program to check the no is Palindrome or not using UDF.

```
#include<stdio.h>
#include<conio.h>
void Palindrom (int n);
void main ()
{
    int no;
    clrscr ();
    PrintF ("Enter no. :- ");
    ScanF ("%d", & no);
    Palindrom (no);
    getch ();
}
void Palindrom (int n)
{
    int rem, rev=0, m;
    m=n;
    while (n!=0)
    {
        rem = n % 10;
        rev = rev * 10 + rem;
        n=n/10;
    }
    iF (m==rev)
    {
        PrintF("%d is Palindrom", m);
    }
    else
    {
        PrintF("%d is not Palindrom", m);
    }
}
```

Output :-

```
Enter the no. :- 121

The no. is Palindrom
```

Practical :- 2

* Write a C Program to Find Factorial of given on using UDF.

```
#include<stdio.h>
#include<conio.h>
int Fact(int no);
void main()
{
    int n, F;
    clrscr();
    printf("Enter the value for n = ");
    scanf("%d", &n);
    F = Fact(n);
    printf("Fact = %d", F);
    getch();
}
int Fact(int no)
{
    int i, Fact = 1;
    for (i=1; i<=no; i++)
    {
        Fact = Fact * i;
    }
    return (Fact);
}
```

output:-

Enter the value For n = 5

Fact = 120

Practical :- 3

* Write a C Program to Find Factorial of given no using Recursion.

```
#include<stdio.h>
#include<conio.h>
void main ()
{
        int num, F;
        clrscr ();
        PrintF("Enter any no. =");
        ScanF ("%d", & num);
        F = Factorial (num);
        PrintF ("Factorial = %d", F);
        getch ();
}
int Factorial (int no)
{
        int Fact;
        if (no == 1)
        {
            return (1);
        }
        else
        {
            Fact = no * Factorial (no-1);
        }
            return (Fact);
}
```

Output:-

```
Enter the any no.:- 5
Factorial = 120
```

Practical :- 4

* Write a C Program to display First 25 terms of Fibonacci series using recursion.

```
#include<stdio.h>
#include<conio.h>
void Fibo (int i);
void main ()
{
      int i;
      clrscr ();
      PrintF ("Enter no = ");
      ScanF ("%d", &i);
      Fibo (i);
      getch ();
}
void Fibo (int i)
{
      Long int j, a=0, b=1, F=1;
      For (j=1; j<=25; j++)
      {
          F=a+b;
          a=b;
          b=F;
          PrintF ("\n%d", F);
      }
      getch ();
}
```

Output:-

```
Enter no = 3
5
8
13
21
34
55
89
144
233
377
610
987
1567
2584
4181.
6765
10946
17711
28657
46368
75025
121393
196418
317811
```

Practical :- 5

* Write a C Program using a recursive Function to Find the GCD of two Positive integers no.

```
#include<stdio.h>
#include<conio.h>
int gcd (int a, int b);
void main ()
{
      int a, b, ans = 0;
      clrscr ();
      PrintF("Enter the value For a = ");
      ScanF("%d", & a);
      PrintF("Enter the value For b = ");
      ScanF("%d", & b);
      ans = gcd (a, b);
      PrintF("answer = %d", ans);
      getch ();
}
int gcd (int a, int b);
{
      int rem;
      rem = a % b;
      if (rem == 0)
      {
         return b;
      }
      else
      {
         return (gcd (b, rem));
      }
}
```

Output:-

```
Enter the value For a = 60
Enter the value For b = 48

answer = 12
```

Practical:- 6

* Write a C Program to swap value of two integers no. using UDF.

```
#include<stdio.h>
#include<conio.h>
void swap(int a, int b);
void main()
{
        int a,b;
        swap(a,b);
}
void swap(int a, int b)
{
        int c;
        clrscr();
        printf("Enter the value for a= ");
        scanf("%d", &a);
        printf("Enter the value for b= ");
        scanf("%d", &b);
        c=a;
        a=b;
        b=c;
        printf("\n a= %d, \n b= %d", a, b);
        getch();
}
```

Output:-

```
Enter the value For a = 64
Enter the value For b = 35

a=35
b=64
```

Practical :- 7

* Write a C Program Function Prime that returns 1 if it's argument is a Prime and return 0 otherwise.

```
#include <stdio.h>
#include <conio.h>
int Prime (int);
void main ()
{
    int n, P;
    clrscr ();
    PrintF ("Enter a no. = ");
    ScanF ("%d", &n);
    P = Prime (n)
    if(P==1)
    PrintF ("%d is Prime \n", n);
    else
    PrintF("%d is not Prime \n", n);
    getch ();
    return ();
}
int Prime (int n)
{
    int i;
    For (i=2; i<n; i++)
    {
    if (n%i==0)
    return 0;
    }
    return 1;
}
```

output:-

```
Enter the no = 78
78 is not prime

Enter the no = 13
13 is prime
```

Practical:- 8

* Write a C Program that will Print the longest word written in a line using UDF.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void string_long (char str[]);
void main ()
{
        char s[100];
        clrscr ();
        printf("\n\n Enter string = ");
        get (s);
        string_long (s);
        getch ();
}
void string_long (char str[])
{
        int i,j=0,i;
        char b[20], c[20];
        For (i=0; i<strlen (a); i++)
        {
        iF (a[i]=32 || a[i]='\0')
        {
          b[j+1] a[i]
        }
        else
        {
          b[j]='\0'
        }
          iF (i=strlen(b))
        {
          strcpy (c, b);
```

```
    l = strlen(b);
}
    j=0;
    printf("\n\n longest word is ==%s",j);
    puts(c);
}
```

output:-

Enter String have a Function

longest word is = Have

Practical:-9

* Write a c Program that will Scan a character string Passed as an argument and convert all lowercase character into these uppercase equivalents using UDF.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void up (char a[], int n);
void main ()
{
      int i;
      char a[15];
      clrscr ();
      PrintF ("Enter string = ");
      ScanF ("%s", &a);
      UP (a, 15);
      getch ();
}
void up (char a[], int n)
{
      int i;
      For (i=0; i<=n; i++)
      {
        a[i] = a[i] - 32;
      }
      PrintF("\n String in uppercase = %s", a);
}
```

output:-

Enter string = SinghPuru

Uppercase string = SINGHPURU

Practical:- 10

* Write a C Program that uses a UDF to Sort an array of integers.

```
#include<stdio.h>
#include<conio.h>
void Sort (int a[]);
void main ()
{
    int a [5], i;
    clrscr ();
    For (i=0; i<=4; i++)
    {
      PrintF("Enter the no=");
      ScanF("%d", & a[i]);
    }
    Sort (a);
    getch ();
}
void Sort (int a[])
{
    int temp, i, j;
    For (i=0; i<=4; i++)
    {
      For (j=i; j<=4; j++)
      {
        iF (a[i]>a[j])
        {
          temp = a[i];
          a[i] = a[j];
          a[i] = temp;
        }
      }
    }
```

```
    For(i=0; i<=4; i++)
    {
     PrintF("In the String no is %d", a[i]);
    }
}
```

output:-

Enter the no = 5
Enter the no = 4
Enter the no = 3
Enter the no = 2
Enter the no = 1

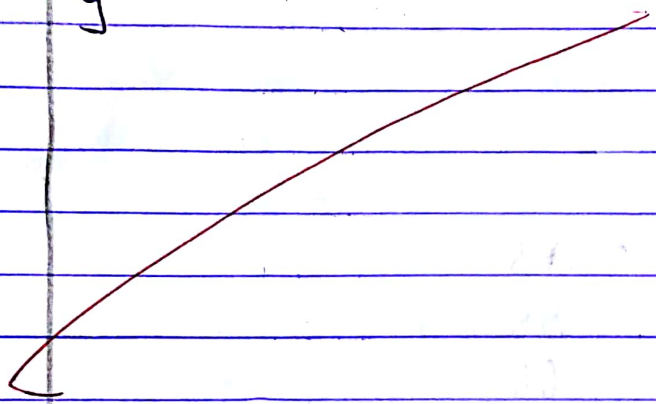
the string no = 1
the string no = 2
the string no = 3
the string no = 4
the string no = 5

Practical :- 11

* Write a C Program to search a no. within an array using UDF.

```
#include<stdio.h>
#include<conio.h>
int search (int [], int i);
void main ()
{
    int a[5], ans;
    clrscr ();
    ans = search (a, 5);
    if (ans == 1)
    {
      printf ("no. is same = ");
    }
    else
    {
      printf("no. is not same = ");
    }
     getch ();
}
int search (int a[], int i)
{
    int no;
    for (i=1; i<=5; i++)
    {
      printf ("Enter the no. = ");
      scanf ("%d", &a[i]);
    }
    printf ("Enter the no. for search = ");
    scanf ("%d", &no);
    for (i=1; i<=5; i++)
    {
      if (no == a[i])
```

```
{
    return (1);
}
}
}
```



Output:-

```
Enter the no. = 73
Enter the no. = 58
Enter the no. = 66
Enter the no. = 72
Enter the no. = 51
Enter the no. For search = 73

no. is same

Enter the no. = 73
Enter the no. = 58
Enter the no. = 66
Enter the no. = 72
Enter the no. = 51
Enter the no. For search = 45

no. is not same
```

Practical :- 12

* Write a Program which explain the use of nesting Function.

```
#include<stdio.h>
#include<conio.h>
Float ratio (int x, int y, int z);
void main ()
{
    int a,b,c;
    clrscr ();
    PrintF ("Enter the value For a,b,C=");
    ScanF ("%d %d %d", &a, &b, &c);
    PrintF("%F \n", ratio (a,b,c));
    getch ();
}
Float ratio (int x, int y, int z)
{
    iF (difference (x,y))
    return (x/y-2);
    {
     return (1.0);
    }
}
int difference (int P, int q)
{
    iF (P!=q)
    {
      return (1);
    }
    else
    {
      return (1);
    }
}
```

output:-

```
Enter the value = 45
67
34
1.000000
```

Practical:-13

* Write a Function Power that computes x raised to the Power y For integer x and y and return Double-type value.

```
#include<stdio.h>
#include<conio.h>
double Power (int x, int y);
void main ()
{
    int x, y;
    double a;
    clrscr ();
    PrintF ("Enter First no. (base) = ");
    ScanF ("%d", &x);
    PrintF ("Enter second no. (Power) = ");
    ScanF ("%d", &y);
    a = Power (x, y);
    PrintF ("Ans: %F \n", a);
}
    int i;
    double t = I;
    For (i = I; i <= y; i++)
    {
       T = T * x;
    }
      return (t);
}
```

output:-

```
Enter the value x = 2
Enter the value y = 3

8.000000
```

Practical :- 14

* Define a structure type struct personal that would contain person name, date of joining and salary using this structure to read this.....

```
#include<stdio.h>
#include<conio.h>
Struct personal
{
    char name[20];
    int d,m,y;
    int salary;
}P1[5];
void main()
{
    int i;
    clrscr();
    For(i=0; i<2; i++)
    {
      PrintF("\n Enter name = ");
      ScanF("%s", P1[i].name);
      PrintF("\n Enter date = ");
      ScanF("%d", &P1[i].d);
      PrintF("\n Enter month = ");
      ScanF("%d", &P1[i].m);
      PrintF("\n Enter year = ");
      ScanF("%d", &P1[i].y);
      PrintF("\n Enter salary = ");
      ScanF("%d", &P1[i].salary);
    }
    PrintF("NAME \t\t DATE \t\t SALARY");
    For(i=0; i<2; i++)
    {
```

```
        PrintF("\n %-5s \t \t %-d %-d %-d \t
        \t %-d", P1[i].name, P1[i].d, P1[i].
        m, P1[i].y, P1[i].Salary);
    }
    getch ();
}
```

output:-

```
Enter the name = Putu
Enter the date = 21/01/2015
Enter the salary = 3000

Enter the name = Raj
Enter the date = 18/06/2016
Enter the Salary = 4000
Name        Date          Salary
Putu        21/01/2015    3000
Raj         18/06/2016    4000
```

Practical :- 15

* Design a structure student record to contain name, branch and total marks obtained.

```
#include<stdio.h>
#include<conio.h>
Struct student
{
      char name[20];
      char branch[20];
      long int mark;
} std[2];
void main ()
{
      int i;
      clrscr ();
      For (i=1; i<=2; i++)
      {
        PrintF ("Enter the student name= ");
        ScanF("%s", std[i].name);
        PrintF("Enter the student branch= ");
        scanF("%s", std[i].branch);
        PrintF ("Enter the student mark= ");
        ScanF("%d", &std[i].mark);
      }
      For (i=1; i<=5; i++)
      {
        PrintF("\n");
        PrintF("name=%s\n", std[i].name);
        PrintF("branch=%s\n", std[i].branch);
        PrintF("mark=%d\n", std[i].mark);
      }
      getch ();
}
```

output:-

```
Enter the student name = Pushu
Enter the student branch = vidhyanagri
Enter marks = 85

Enter the student name = Raj
Enter the student branch = samarth
Enter marks = 86

name = Pushu
branch = vidhyanagri
marks = 85

name = Raj
branch = Samarth
marks = 86
```

Practical:- 16

* Write a c Program using structure within structure.

```
#include <stdio.h>
#include <conio.h>
struct student
{
    int rollno;
    char name[20];
    struct birthdate;
    {
        int d;
        int m;
        int y;
    }bdate;
};
void main ()
{
struct student S1;
clrscr ();
PrintF ("Enter Roll No. = ");
ScanF ("%d", &S1.roll no);
PrintF ("Enter name = ");
ScanF ("%d", &S1.name);
PrintF ("Enter Birthdate = ");
ScanF ("%d/%d/%d", &S1.bdate.m, &S1.bdate.
        y);
PrintF ("Given student date = ");
ScanF ("%d %s %d %d %d", &S1.rollno, S1.
    name, S1.bdate.d, S1.bdate.m, S1.bdate.
    y);
getch ();
}
```

output:-

```
Enter Roll No = 1
Enter name = Putu
Enter date = 2
Enter month = January
Enter year = 2015
Enter Roll No = 2
Enter name = Raj
Enter date = 3
Enter month = February
Enter year = 2015
Enter Roll No = 4
Enter name = Yash
Enter date = 17
Enter month = January
Enter year = 2015
Enter Roll No = 45
Enter name = Kedar
Enter date = 18
Enter month = February
Enter year = 2015
Enter Roll No = 6
Enter name = Anu
Enter date = 30
Enter month = January
Enter year = 2015
```

Roll No.	Name	Date	Month	Year
1	Putu	2	January	2015
2	Raj	3	February	2015
3	Yash	17	January	2015
4	Kedar	18	February	2015
5	Anu	30	January	2015

Practical :- 17

* Define a structure called cricket that will describe the following inf. Player name, Team name, Runs.

```
#include<stdio.h>
#include<conio.h>
Struct cricket
{
   char Pname[20];
   char Tname[20];
   int runs;
}ply[10];
void main()
{
    int j;
    clrscr();
    for(j=0; j<5; j++)
    {
      printf("Enter the name=");
      scanf("%s", ply[j].Pname);
      printf("Enter the team (india:i/
                  Srilanka:s/Austrila:a)=");
      scanf("%s", ply[j].tname);
      printf("Enter runs=");
      scanf("%d", &ply[j].runs);
    }
     printf("\n INDIA");
     printf("\n.....");
     printf("\n\n\n name \t runs");
     for(j=0; j<5; j++)
     {
       if(strcmp(ply[j].tname, "i")==0)
       {
```

```
        PrintF("\n.\t%s\t%d", PLY[j].Pname,
                PLY[j].runs);
      }
  }
  PrintF("\n\n SRILANKA");
  PrintF("\n.....");
  PrintF("\n\n NAME \t RUNS");
  For (j=0; j<5; j++)
  {
    IF (strcmp(PLY[j].tname, "s")==0);
    {
      PrintF("\n.%s\t%d", PLY[j].Pname
              PLY[j].runs);
    }
  }
  PrintF("\n\n AUSTRALIA");
  PrintF("\n.....");
  PrintF("\n\n NAME \t RUNS");
  For (j=0; j<5; j++)
  {
    IF (strcmp(PLY[j].tname, "a")==0)
    {
      PrintF("\n.%s\t%d", PLY[j].Pname,
              PLY[j].runs);
    }
  }
  getch();
}
```

output:-

Enter Pname = Putu
= India
= 400
Enter Pname = Raj
= Pakistan
= 300
Enter Pname = Kedar
= India
= 200
Enter Pname = Yash
= Pakistan
= 400
Enter Pname = Mahav
= India
= 300

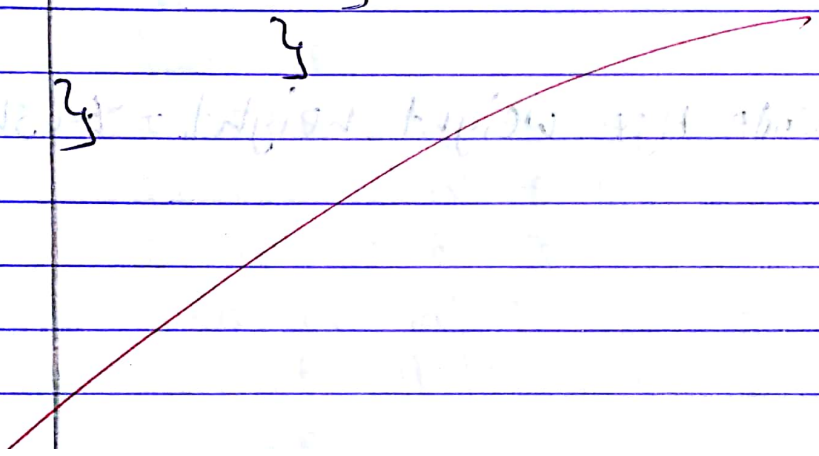
Pname	tname	Runs
Putu	India	400
Raj	Pakistan	300
Kedar	India	200
Yash	Pakistan	400
Mahav	India	300

Practical:-18

* In a Program declare Follo. Structure members name, code, age, weight and height. Read all members of the Structure For 10 Persons and Find list of Persons with all related date whose weight >50 and height >40 and Print the same with Suitable Format and title.

```
#include<stdio.h>
#include<conio.h>
struct members
{
   char name[20];
    int code;
    int age;
    Float weight;
    Float height;
};
void main()
{
struct members S[3]
int i;
Float w,h;
clrscr();
For(i=0; i<3; i++)
{
PrintF("Enter Name, code, Age, weight, height");
ScanF("%s %d %d %F %F", S[i].name, &S[i].
        code, &S[i].age, &w, &h);
S[i].weight = w;
S[i].height = h;
}
```

```
PrintF("\n\n\n");
For (i=0; i<3; i++)
{
 iF (S[i].weight>50 && S[i].height>40)
 {
  PrintF("%.5s\t %.d \t %.d \t %.F \t %.F
         \n", S[i].name, S[i].code,
         S[i].age, u, h);
 }
}
}
```



output:-

```
Enter the Name, code, Age, weight, height = Putu
1
19
51
55

Enter the Name, code, Age, weight, height = Yash
2
19
50
75

Enter the Name, code, Age, weight, height = Kedar
3
19
51
85

Putu    1    19    51.00000    55.0000
Kedar   3    19    51.00000    55.0000
```

Practical :- 19

* Write a c Program to Print the value and address of the element.

```
#include<stdio.h>
#include<conio.h>
void main ()
{
   int a;
   int *p;
   clrscr ();
   PrintF ("Enter No. =");
   ScanF ("%d", &a);
   PrintF("value of a = %d \n", a);
   PrintF ("Address of a = %d \n", &a);
   P = &a;
   PrintF("value of a = %d \n", a);
   PrintF ("value of P = %x \n", P);
   PrintF ("value of *P = %d \n", *P);
   getch ();
}
```

output

```
Enter no = 5
value of a = 5
Address of a = FFF4
value of a = 5
value of p = FFF4
value of *p = 5
```

Practical :- 20

* Write a Program to accept in no. and display its sum using pointer.

```
#include<stdio.h>
#include<conio.h>
void main()
{
   int a[10], i, *p, s=0;
   clrscr();
   for(i=0; i<10; i++)
   {
    printf("Enter value=");
    scanf("%d", &a[i]);
   }
   p=a;
   for(i=0; i<10; i++)
   {
     s=s+*(p+i);
   }
   printf("sum=%d", s);
   getch();
}
```

output:-

```
Enter value = 10
Enter value = 11
Enter value = 16
Enter value = 17
Enter value = 20
Enter value = 18
Enter value = 20
Enter value = 21
Enter value = 25
Enter value = 28

Sum = 186
```

Practical :- 21

* Write a Program to accept 10 members and sort them with use of Pointer.

```
#include<Stdio.h>
#include<conio.h>
void main()
{
  int a[10], i, j, *p, t;
  clrscr();
  For (i=0; i<=10; i++)
  {
    PrintF("Enter the value=");
    ScanF("%d", &a[i]);
  }
   P=a;
   For (i=0; i<10; i++)
   {
   For (j=i+1; j<10; j++)
   {
     iF (*(P+i) > *(P+j))
     {
       t = *(P+i);
       *(P+i) = *(P+j);
       *(P+j) = t;
     }
   }
   }
   PrintF("\n\n Sorted list = \n");
   For (i=0; i<10; i++)
   {
     PrintF("%d \n", a[i]);
   }
   getch();
}
```

Output:-

```
Enter the value = 1
Enter the value = 2
Enter the value = 3
Enter the value = 4
Enter the value = 5
Enter the value = 6
Enter the value = 7
Enter the value = 8
Enter the value = 9
Enter the value = 10

Sorted list =
1
2
3
4
5
6
7
8
9
10
```

Practical:- 22

* Write a Program to swap the two values using Pointers and UDF.

```
#include <stdio.h>
#include <conio.h>
void swap (int *a, int *b);
void main ()
{
    int x, y;
    clrscr ();
    PrintF ("Enter the value of x=");
    ScanF ("%d", &x);
    PrintF ("Enter the value of y=");
    ScanF ("%d", &y);
    Swap (&x, &y);
    PrintF ("New x is=%d", x);
    PrintF ("New y is=%d", y);
    getch ();
}
void swap (int *a, int *b)
{
    int temp;
    temp = *a;
    *a = *b;
    *b = temp;
}
```

output:-

```
Enter value of x = 45
Enter value of y = 12

New x is = 12
New y is = 45
```

Practical:- 23

* Write a Program with structure and Pointer.

```
#include <stdio.h>
#include <conio.h>
struct student
{
    int no, masks;
    char name [20];
};
void main ()
{
    struct student S[3], *P;
    int i;
    clrscr ();
    P=S;
    For (P=S; P<S+3; P++)
    {
      PrintF("Enter no, name, masks = ");
      ScanF("%d %s %d", &P->no, P->name,
                &P->masks);
    }
    PrintF("no \t \t name \t \t masks \n");
    For (P=S; P<S+3; P++)
    {
      PrintF("\n %d \t \t %s \t \t %d", P->
            no, P->name, P->masks);
    }
    getch ();
}
```

output:-

```
Enter the no, name, masks = 67
 Singh
 82

Enter the no, name, masks = 72
 Rathod
 80

Enter the no, name, masks = 73
 Sinh
 81
```

Practical:- 24

* Write a Program using Pointer to determine the length of a character using.

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    char *s;
    int i=0;
    clrscr ();
    printf ("Enter string = ");
    gets (s);
    while (*(s+i)!='\0')
    {
        i++;
    }
    printf ("length of string is = %d", i);
    getch ();
}
```

output:-

```
Enter string = virat kohli
length of string = 11
```

Practical:-25

* Write a Program using Pointers to read an array of integers and Print its elements in reverse order.

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    int a[10], *p, i;
    clrscr ();
    For (i=0; i<=9; i++)
    {
     PrintF ("Enter value = ");
     ScanF ("%d", &a[i]);
    }
     p=a;
     PrintF ("reverse value = \n");
     For (i=9; i>=0; i--)
    {
     PrintF ("%d \n", * (p+i));
    }
     getch ();
}
```

output:-

```
Enter the value = 10
Enter the value = 9
Enter the value = 8
Enter the value = 7
Enter the value = 6
Enter the value = 5
Enter the value = 4
Enter the value = 3
Enter the value = 2
Enter the value = 1

Reverse number = 1
                 2
                 3
                 4
                 5
                 6
                 7
                 8
                 9
                 10
```

Practical :- 26

* Write a program using UDF and pointers to add two matrices and to return the resulant matrix to the calling Function.

```
#include <stdio.h>
#include <conio.h>
int a[5][5], b[5][5], row, col;
void add (int (*)[5]);
int main ()
{
    int c[5][5], i, j;
    clrscr ();
    printf ("Enter row = ");
    scanf ("%d", &row);
    printf ("Enter col= ");
    scanf ("%d", &col);
    printf("Enter matrix A = \n");
    for (i=0; i<rows; i++)
    {
       for (j=0; j<col; j++)
       {
          scanf ("%d", &a[i][j]);
       }
    }
    printf ("Enter matrix B= \n");
    for (i=0; i<row; i++)
    {
       for (j=0; i<col; j++)
       {
          scanf ("%d", &b[i][j]);
       }
    }
```

```
        add (c);
        PrintF ("Addition = \n");
        For (i=0; i<row; i++);
        {
          For (j=0; j<col; j++)
          {
            PrintF("%d \t", c[j][i]);
          }
          PrintF ("\n");
        }
        getch ();
        return 0;
}
void add (int c[5][5])
{
      int i, j;
      For (i=0; i<row; i++)
      {
        For (j=0; j<col; j++)
        {
          c[i][j] = a[i][j] + b[i][j];
        }
      }
}
```

output:-

```
Enter row = 2
Enter Col = 2

Enter matrix A = 1
                 2
                 3
                 4

Enter matrix B = 2
                 3
                 4
                 5

Addition = 3  5
           7  9
```

Practical :- 27

* Create one text file store some information into it and print the same information on Terminal.

```
#include<stdio.h>
#include<conio.h>
void main()
{
    char s[100],t;
    int i;
    FILE *fp;
    clrscr();
    fp=fopen("my.txt","w");
    printf("Enter your string=");
    gets(s);
    for(i=0;s[i]!='\0';i++)
    {
      putc(s[i],fp);
    }
    fclose(fp);
    fp=fopen("my.txt","r");
    while((t=getc(fp))!=EOF)
    {
      printf("%c",t);
    }
    fclose(fp);
    getch();
}
```

output:-

```
Enter your string =
Singh Purushottam
Singh Purushottam
```

Practical :- 28

* A File named data contains series of integer no. write a C Program to read that no. and then write all odd no. into File named odd no. and write all even no into File named even no. Display all the contents of these on screen.

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int i, num;
    FILE *F1, *F2, *F3;
    clrscr ();
    F1 = Fopen ("data.txt", "w");
    For (i=0; i<10; i++)
    {
        PrintF ("Enter value = ");
        ScanF ("%d", & num);
        IF (num == -1)
        break;
        Putw (num, F1);
    }
    Fclose (F1);
    F1 = Fopen ("data.txt", "r");
    F2 = Fopen ("odd.txt", "w");
    F3 = Fopen ("even.txt", "w");
    while ((num = getw (F1)) != EoF)
    {
        IF (num % 2 == 0)
        {
            Putw (num, F3)
        }
```

```
        else
        {
            putw (num, F2);
        }
    }
    fcloseall ();
    F2 = fopen ("odd.txt", "r");
    F3 = fopen ("even.txt", "r");
    printf ("odd.txt", "\n");
    while (num = getw (F2)) != EOF)
    {
        printf ("%d \n", num);
    }
    fclose (F2);
    fclose (F3);
    getch ();
}
```

output:-

```
Enter value = 1
Enter value = 2
Enter value = 3
Enter value = 4
Enter value = 5
Enter value = 6
Enter value = 7
Enter value = 8
Enter value = 9
Enter value = 10

odd File data
1
3
5
7
9

Even File data
2
4
6
8
10
```

Practical:-29

* Write a c Program to read data From keyboard, write it to a called input and Display data of input File on the Screen.

```
#include <stdio.h>
#include<conio.h>
void main ()
{
   char S[100], t;
   int i;
   FILE *FP;
   clrscr ();
   FP = Fopen("input.txt", "w");
   PrintF ("Enter Your String=");
   gets (S);
   For (i=0; S[i]='\0'; i++)
   {
      Putc (S[i], FP);
   }
   Fclose (FP);
   FP=Fopen("input.txt", "r");
   While ((t=getc (FP))!=EoF)
   {
      PrintF ("%c", t);
   }
   Fclose (FP);
   getch ();
}
```

output:-

Enter your String =

M.S. Dhoni

M.S. Dhoni.

Practical :- 30

* Write a Program that counts the no. of characters & no. of lines in a File.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    FILE *FP;
    char t;
    int c=0, l=0;
    clrscr();
    FP=Fopen("my.txt", "r");
    while ((t=getc(FP))!=EOF)
    {
      if (t!=' ' && t!='\n')
      {
          c++;
      }
      if (t=='\n')
      {
          l++;
      }
    }
    Fclose(FP);
    PrintF("no of character is %d\n", c);
    PrintF("no of line is %d\n", l);
    getch();
}
```

output :-

```
Enter your string =
singh Purushottam

No. of Characters is =0
No. of lines is =0
```

Practical :- 31

* Write a C Program to read mark data which contains roll no, name, sub1, sub2, sub3 File and generate the annual examination results are tabulated as follows.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
  int i, rno[5], s1[5], s2[5], s3[5];
  int frno[5], fs1[5], fs2[5], fs3[5], ft[5];
  float fper[5];
  char name[5][20];
  char name[5][20], fclass[5][15];
  FILE *fp;
  fp=fopen("student.txt","w");
  clrscr();
  for(i=0; i<2; i++)
  {
   printf("Enter rollno, name, s1, s2, s3=");
   fscanf(stdin,"%d %s %d %d %d",&
          rno[i], name[i], &s1[i], &
          s2[i], &s3[i]);
   fprintf(fp "%d \t %s %d \t %d \t %d \n",
          rno[i], name[i], s1[i], s2[i],
          s3[i]);
  }
  fclose(fp);
  fp=fopen("student.txt","r");
  printf("Result \n");
  printf("======\n");
```

```
PrintF("Rno, name, S1, S2, S3, Total
        Per class \n");
For (i=0; i<2; i++)
{
  FScanF (Fp "%d %s %d %d %d
          %d", &Frno[i], Fname[i],
          &FS1[i], &FS2[i], &FS3[i]);
 Ft[i] = FS1[i] + FS2[i] + FS3[i];
 FPer[i] = Ft[i] / 3.0;
 iF (FPer[i] > 70)
 {
   strcpy (Fclass[i], "Distriction");
 }
  else iF (FPer[i] >= 60)
 {
   strcpy (Fclass[i], "First");
 }
 else iF (FPer[i] >= 50)
 {
   strcpy (Fclass[i], "second");
 }
 else iF (FPer[i] >= 35)
 {
   strcpy (Fclass[i], "Pass");
 }
 else
 {
   strcpy (Fclass[i], " * ");
 }
 FPrintF (stdout, "%d %s %d %d
          %d %d %d %F %
          %s \n");
 Frno[i], Fname[i], FS1[i], FS2[i],
   FS3[i], Ft[i], FPer[i], Fclass[i];
}
```

```
PrintF ("=======\n");
Fclose (FP);
getch ();
}
```

output:-

hno	name	S1 S2 S3	Total	Per	class
58	Puba	78 89 85	252	84.000	First
60	Raj	45 58 59	192	89.000	distbiction

Practical:-32

* Write a C Program to input employee no, employee name and basic and to store output into empdata File in Following Format.

```
#include <stdio.h>
#include <conio.h>
#include <string.h>
Struct emp
{
    int no, basic;
    char name [20];
    Float da, Hra, ma, PF, gross, net;
};
void main ()
{
    struct emp S[20];
    FILE *FP;
    int n, i;
    clrscr ();
    FP = Fopen ("Prog.txt", "w");
    FPrint (Stdout, "Enter no, name, basic \n");
    FPrint (FP, "--------");
    For (i=1; i<=2; i++)
    {
     FScan (Stdin, "%d %s %d", & S[i].no,
            S[i].name, & S[i].basic);
     FPrint (FP, "%d \t %s \t %d \t %F \t
            %F \t %F \t %F \t %F \t
            %F \t \n", S[i].no, S[i].
            name, S[i].basic, S[i].da,
            S[i].hra, S[i].ma, S[i].PF,
            S[i].gross, S[i].net);
```

```
s[i].da = s[i].basic * 0.50;
s[i].hra = s[i].basic * 0.10;
s[i].ma = 100;
s[i].PF = s[i].basic * 0.10;
s[i].gross = s[i].basic + s[i].dat s[i].hra
             + s[i].ma;
s[i].net = s[i].gross - s[i].PF;
}
FPrintF (stdout, "No\t name\t basic\t Da
        \t hra\t ma\t PF\t gross\t net
        \n");
FPrintF (stdout, "_ _ _ _ _ _ _ _ _ \n");
Fclose (FP);
FP = FOpen ("PROG.txt", "r");
For (i=1; i<=2; i++)
{
 FScanF (FP, "%d %s %d", &s[i].no, s[i].
        name, &s[i].basic);
 FPrintF (stdout, "%d\t %s\t %d\t %.2
        f\t %.2f %.2f %.2f
        %.2f %.2f\n",
        s[i].no, s[i].name, s[i].basic,
        s[i].da, s[i].hra, s[i].ma,
        s[i].PF, s[i].gross, s[i].net);
}
FPrintF (stdout, "_ _ _ _ _ _ _ _ \n");
Fclose (FP);
getch ();
}
```

output:-

no	name	basic	da	hra	ma	PF	gross	net
1	Pubu	12000	6000	1200	100	1200	1200	1200
2	Raj	10000	5000	1500	100	1000	1000	1000

Practical:-33

* Write a C program to read empin data File which contains empno, empname and basic, to create empout data File as per2 Practical Format.

```
#include <stdio.h>
#include <conio.h>
Struct emp
{
    int no, basic, ma;
    char name [20];
    Float da, hra, PF, gross, net;
};
void main ()
{
    struct emp s[20];
    FILE *FP;
    int n, i;
    clrscr ();
    PrintF("\n Enter Employee data:- ");
    PrintF("\n how many Record you want to
            insert:- ");
    ScanF("%d", &n);
    FP=Fopen("empdata.txt", "w");
    FPrintF (FP, "%d %s %d", s[i].no,
            s[i].name, s[i].basic);
    For (i=0; i<n; i++)
    {
      PrintF("\n Enter the employee no:-");
      FScanF (stdin, "%d", & s[i].no);
      PrintF("\n\t Enter the employee
            name:- ");
      FScanF (stdin, "%s", s[i].name);
```

```
PrintF("\n\t Enter the basic salary:-");
FScanF(stdin, "%d", &S[i].basic);
PrintF(FP, "%d %s %d", S[i].no,
        S[i].name, S[i].basic);
}
Fclose(FP);
FPrintF(stdout, "\n");
FP=Fopen("empdata", "r");
PrintF("_ _ _ _ _ _ _ _");
PrintF("\n Empno \t name \t basic
        \t da \t hra \t ma \t PF \t
        PF \t Gross \t net");
PrintF("\n _ _ _ _ _ _ _ _ _ _");
For(i=0; i<n; i++)
{
 FScanF(FP, "%d %s %d", S[i].no, S[i].
        name, S[i].basic);
 S[i].da = S[i].basic * 0.50;
 S[i].hra = S[i].basic * 0.10;
 S[i].ma = 100;
 S[i].PF = S[i].basic * 0.10;
 S[i].gross = S[i].basic + S[i].da +
              S[i].hra + S[i].ma;
 S[i].net = S[i].gross, S[i].PF;
 FPrintF(stdout, "\n %d \t %s \t %d
        \t %d F/t %.2. F/t %.2. F/t
        %.2 \t %.2 F", S[i].no, S[i].
        name, S[i].basic, S[i].da,
        S[i].hra, S[i].ma, S[i].Pt,
        S[i].gross, S[i].net);
}
Fclose(FP);
getch();
}
```

output:-

Enter employee data;
How many record you want to insert = 1
Enter the employee no = 1
Enter the employee name = Pubu
Enter the basic Salary = 5000

no	name	Basic	DA	HRA	MA	PF	Gross	Net
1	Pubu	5000	2500	500	100	100	8100	7600

Practical:- 34

* Write a Program using Fseek and Ftell Functions.

```
#include<stdio.h>
#include<conio.h>
void main()
{
    FILE *FP;
    long int n;
    char c;
    FP = Fopen("RANDOM.txt", "w");
    while ((c=getchar c)) != EOF)
    {
        Put (C, FP);
    }
    PrintF("No.OF characters entered= %d
            \n", Ftell (FP));
    Fclose (FP);
    FP=Fopen("RANDOM.txt", "r");
    n=0L;
    while (FeoF (FP) == 0)
    {
        Fseek (FP, n, 0);
        PrintF("Position of %c is %d \n",
                getc(FP), Ftell (Fp));
        n=n+5L;
    }
    Putchar('\n');
    Fseek (FP, -1L, 2);
    do
    {
        Putchar (get (FP));
    }
```

```
while (!Fseek (FP, -2L, 1);
Fclose (FP);
getch ();
}
```

output:-

ABCDEFGHIJKLMNOPQRSTUVWXYZ

No. of characters entered = 26

Position of A is = 0
Position of F is = 5
Position of K is = 10
Position of P is = 15
Position of U is = 20
Position of Z is = 25
Position of is = 30

ZYXWVUTSRQPONMLKJIHGFEDCBA

Practical :- 35

* Two Files Data 1 & 2 contain sorted list of integer. Write a Program to Produce a third File data which hold a single sorted merged list of these two lists - use command line Arguments to specify the File names.

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    FILE *F1, *F2, *F3;
    int number, i, j, k, temp, sort[40];
    clrscr ();
    PrintF("File DATA - 1 \n");
    PrintF("Enter -1 For stop For add
            no. into File :- \n");
    PrintF("Enter the no. :- ");
    F1 = Fopen("data1.txt", "w++");
    For (i=1; i<=30; i++)
    {
      scanF("%d", & no);
      if (number == -1)
      {
        break;
      }
       Putw (number, F1);
    }
     FClose (F1);
     PrintF("\n File DATA-2 :- ");
     PrintF("\n Enter -1 For stop For add
             number into File :- \n \n");
     PrintF("\n Enter the number = ");
```

```
F2=Fopen ("data2.txt", "w++");
For (i=1; i<=30; i++)
{
   FScanF ("%d", &number);
   iF (number == -1)
   {
      break;
   }
     putw (number, F2);
}
Fclose (F2);
PrintF ("\n merged data of File
          data-1 and data-2 File:-");
F1=Fopen ("data1.txt", "r++");
F3 = Fopen ("data3.txt", "w++");
While ((number=getw (F1) ! EoF)
{
   Putw (number, F3);
}
 Fclose (F2);
 Fclose (F3);
 F3= Fopen ("data3.txt", "r++");
 i=0;
 While ((number=getw (F3))!=EoF)
 {
    Sort [i] = number;
    i++;
 }
 Fclose (F3);
 F3=Fopen ("data3.txt", "w++");
 For (j=0; j<i; j++)
 {
    For (1<=j+1; k<i; k++)
    {
```

```
        if (sort[i] > sort[k])
        {
            temp = sort[j];
            sort[j] = sort[k];
            sort[k] = temp;
        }
    }
    putw (sort[j], F3);
}
fclose (F3);
F3 (fopen("data3.txt", "r++");
while((number = getw (F3)!. = EOF)
{
    printf("\n %d", number);
}
fclose (F3);
getch ();
}
```

output:-

File DATA - 1
enter -1 For stop For add number into File:-
enter the number = 10
5
4
14
-1

File DATA - 2
enter -2 For stop For add number into File:-
enter the number = 12
3
15
8
-1

merged data of File data-1 & data-2 File:-

3
4
5
8
10
12
15
15

Practical :- 36

* Write a Program to Work as a dos COPY Con Command using Command line Argument.

```
#include <stdio.h>
#include <conio.h>
void main (int argc, char *argv[])
{
    FILE *FP;
    char ch;
    clrscr();
    if (argc != 2)
    {
     printf("\n required Parameters missing :-");
     printf("\n help : File1 <File name \n");
     exit (0);
    }
    FP = Fopen (argv[1], "w");
    if (FP == NULL)
    {
     printf("\n File not Found :-%s \n", argv[1]);
     exit (1);
    }
    while ((ch=getchar()) != EOF)
    {
     Put ((ch, FP);
    }
    printf("\n\n %s is created", argv[1]);
    Fclose (FP);
    getch ();
}
```

output:-

```
C\TC\BIN\Lab-36 ABC.TXT
Purushottam BCA College
ABC.txt is Created
```

Practical:- 37

* Write a C Program to work as a type Command using command line Argument.

```
#include <stdio.h>
#include <conio.h>
Void main (int argc, char *argv[])
{
    FILE *FP;
    char ch;
    clrscr ();
    if (argc != 2)
    {
     PrintF("\n required Parameter missing:-");
     PrintF("\n help: File /< File name \n");
     exit (1);
    }
    FP = Fopen (argv[1], "r");
    if (FP == NULL)
    {
      PrintF ("\n File not Found %s \n",
                argv[1]);
      exit (1);
    }
    While ((ch = getc (FP)) != EoF)
    {
      PrintF ("%c", ch);
    }
    Fclose (FP);
    getch ();
}
```

output:-

```
c\tc\bin Lab___37.ABC.txt
```

Practical:-38

* Write a C program to work as dos copy command using command line Argument.

```
#include<stdio.h>
#include<conio.h>
void main (int argc, char * argv[])
{
    FILE * FS, *ft;
    char ch;
    clrscr ();
    if (argc!=3)
    {
     printf ("\n required Parameter missing:-");
     printf ("\n help: File /<File name \n");
     exit (1);
    }
    FS = Fopen (argv[1], "r");
    if (FS==NULL)
    {
     printf ("\n File not Found :\s \n",
                argv[1]);
     exit (1);
    }
    Ft = Fopen (argv[2], "w");
    while ((ch=getc (FS))!= EOF)
    {
      Putc (ch, Ft);
    }
    printf ("\n | File [s] copied");
    Fclose (FS);
    Fclose (Ft);
    getch ();
}
```

output:-

```
c\tc\bin>ALB 38 Abc.txt xyz.txt
1 File is copied
```

Practical:- 39

* Write a Programs which explain the use of memory allocation Functions.

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    int *p, *q;
    int n;
    clrscr ();
    printf ("\n Enter value For size :-");
    scanf ("%d", &n);
    p = (int) malloc (n * size of (int));
    if (p == NULL)
    {
      printf ("\n no");
    }
    else
    {
      printf ("\n input values");
    }
    For (q=p; q<p; q++)
    {
      scanf ("%d", q);
    }
    clrscr ();
    printf ("\n Enter values addr = \n");
    For (q=p; q<p+n; q++)
    {
      printf ("\n \n %d", *q);
    }
    getch ();
}
```

output :-

Enter value For size = 5

Input value = 1
2
3
4
5

Enter value abe
1
2
3
4
5

Practical :- 40

* Write a Program which explains the use of macro.

```
#include<stdio.h>
#include<conio.h>
#define CUBE(a) a*a*a
void main()
{
        int no;
        clrscr();
        printf("Enter no:-");
        scanf("%d",&no);
        CUBE(no);
        printf("CUBE= %d", CUBE(no));
        getch();
}
```

output :-

Enter no = 5
CUBE = 125