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Unit No.	Title	Details
1	Flowchart and Algorithm	Prepare flowchart, write algorithm and then write a program to perform the mathematical operations such as addition, subtraction, multiplication, division and mod of two numbers.
2	if statement, Conditional operator, Switch statement	Write a program to find greatest among the 3 numbers using if statements. Write a program to find smallest among the 3 numbers using conditional operators Write a program to input a character and decide whether it is a vowel or not. Try to use toupper() or tolower() function to ignore the character case of the vowels.
3	For loop, do-while / while-do loop if-else ladder/nested if	Write a program to find factorial of number. Write a program to find sum and average of n numbers. Declare average as float and other variables as integers. Write a program to input name and marks of 3 subjects. Calculate total, percentage and grade the students according to the slab: Per Grade ≥ 75 and ≤ 100 "O" ≥ 60 and < 75 "A" ≥ 50 and < 60 "B" ≥ 40 and < 50 "C" ≥ 0 and < 40 "D"
4	Menu driven program, Functions Functions and Recursion	Write a menu driven program to convert dollars to rupees and rupees to dollars. Write a program using functions to find reverse of a number and decide whether it is palindrome or not. Develop two functions getnum() and reverse() with proper prototypes. Write a program to find factorial of a number using the concept of recursion.
5	One Dimensional Array Two Dimensional Arrays	Write a menu driven program to create one dimensional array, display it, find the sum of all the elements, find maximum and minimum element within the array, include the facility to search an element. Finally sort the array. Write a program to create two arrays, find sum and difference of these two matrices.
6	Array of structures, Pointers, File Handling	Write a program using the concept of array of structures to create a list of students having the following fields rollno, name, marks[3], total. Marks should be stored as an integer array. Write a program to swap the values of two variables by using call by reference method in functions Write a program to create a text file „L1.txt“ which stores a line of text till the user presses the enter. Copy this file into L2.txt"

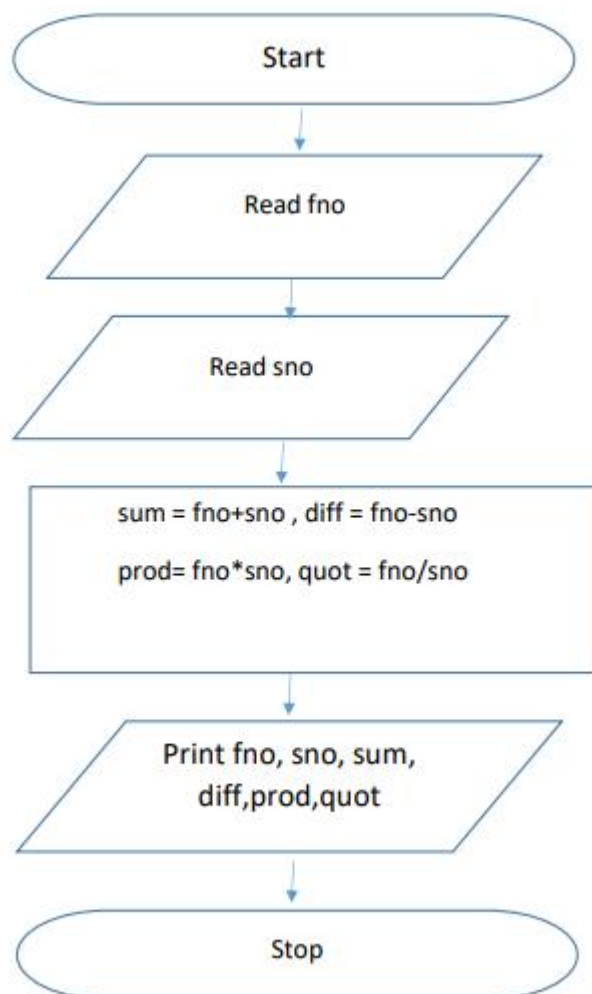
LAB 01: Title: Concept of Flowchart and Algorithm.

Write an algorithm, draw a flowchart and write a program to perform the mathematical operations such as addition, subtraction, multiplication, division and mod of two numbers.

Algorithm:

1. Start
2. Read the first number and store it in memory variable fno.
3. Read the second number and store it in memory variable sno.
4. Add them and store the answer in the memory variable sum.
5. Subtract them and store the answer in the memory variable diff.
6. Multiply them and store the answer in the memory variable prod.
7. Divide them and store the answer in the memory variable quot.
8. Mod them and store the answer in the memory variable rem.
9. Display the answer in a suitable format
10. Terminate

Flowchart:



Program :

```
/* Documentation Section*/
/* Prog No 1 */
/* Aim : Mathematical Operations (Use of scanf and printf) */
/* Link Section */
#include<stdio.h>
#include<conio.h>
/*Definition Section */
#define pi 3.14
/*Global Variables*/
int fno,sno,sum,diff,prod,quot, rem;
void main()
{
clrscr();
/* Data Entry */
printf("Enter the first no : ");
scanf("%d",&fno);
printf("Enter the second no : ");
scanf("%d",&sno);

/*Processing*/
sum=fno+sno;
diff=fno-sno;
prod=fno*sno;
quot=fno/sno;
rem= fno%sno;
/*Output*/
textcolor(CYAN);
cprintf("First no is : %d",fno);
printf("\n");
cprintf("Second is : %d",sno);
printf("\n");
cprintf("Sum is : %d",sum);
printf("\n");
cprintf("Difference is : %d",diff);
printf("\n");
cprintf("Product is : %d",prod);
printf("\n");
cprintf("Quotient is : %d",quot);
printf("\n");
cprintf("Remainder is : %d",rem);
getch();
}
```

OUTPUT:

```
Enter the first no : 10
Enter the second no : 5
First no is : 10
Second is : 5
Sum is : 15
Difference is : 5
Product is : 50
Quotient is : 2
Remainder is : 0_
```

LAB 02 A : Title: IF Statement , Conditional Operator, Switch Statement

Write a program to find greatest among three numbers using if statement.

```
/*Documentatio Section*/
/* Prog No 2A */
/* Use of Nested if */
/*Link Section */
#include<stdio.h>
#include<conio.h>
#include<ctype.h>

/*Definition Section*/
#define pi 3.14

/*Global Declaration Section */
void main()
{
int fno,sno,tno;
char ans;
clrscr();
up:printf("Enter the 3 nos");
scanf("%i%i%i",&fno,&sno,&tno);
if(fno==sno&&fno==tno)
printf("Nos are equal");
else
if(fno>sno)
{
if(fno>tno)
pf("%d is greatest",fno);
else
pf("%d is greatest",tno);
}
else
{
if(sno>tno)
pf("%d is greatest",sno);
else
pf("%d is greatest",tno);
}
printf("Any more trials(Y/N)");
ans=getche();
if(toupper(ans)=='Y')
goto up;
}
```

```
Enter the 3 nos10 20 30
30 is greatest
Any more trials(Y/N)y
Enter the 3 nos10 30 20
30 is greatest
Any more trials(Y/N)y
Enter the 3 nos30 10 20
30 is greatest
Any more trials(Y/N)y
Enter the 3 nos10 10 10
Nos are equal
Any more trials(Y/N)n
```

LAB 02 B: Title: IF Statement, Conditional Operator, Switch Statement

Write a program to find smallest among three numbers using conditional operators.

```
/* Documentation Section */
/*Prog No LAB 2B*/
/* Use of if */
/* Link Section */
#include<stdio.h>
#include<conio.h>
void main()
{
int fno,sno,tno,small;
char ans;
clrscr();
up :printf("\nEnter the 3 nos");
scanf("%i%i%i",&fno,&sno,&tno);
if(fno==sno&&fno==tno)
    printf("Nos are equal");
else
{
    fno<sno?(small=fno<tno?fno : tno) : (small=sno<tno?sno:tno);
    printf("Smallest number is %d",small);
}
printf("\nAny more trials(Y/N)");
ans=getche();
if(toupper(ans)=='Y')
    goto up;
}
```

```
Enter the 3 nos10 10 10
Nos are equal
Any more trials(Y/N)y
Enter the 3 nos10 20 30
Smallest number is 10
Any more trials(Y/N)y
Enter the 3 nos30 10 20
Smallest number is 10
Any more trials(Y/N)y
Enter the 3 nos30 20 10
Smallest number is 10
Any more trials(Y/N)n
```

LAB 02 C: Title: IF Statement, Conditional Operator, Switch Statement

Write a program to input a character and decide whether it is a vowel or not. Try to use toupper() or tolower() to ignore the character case of the vowels.

```
/* Documentation Section */
```

```
/*Program no : 2C Use of switch*/
```

```
/* Decide whether a char is vowel or not*/
```

```
/* Link Section */
```

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

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

```
#include<ctype.h>
```

```
void main()
```

```
{
```

```
char c;
```

```
char resp='Y';
```

```
clrscr();
```

```
while(toupper(resp)=='Y')
```

```
{
```

```
flushall();
```

```
printf("\n Enter the character  :");
```

```
scanf("%c",&c);
```

```
switch(tolower(c))
```

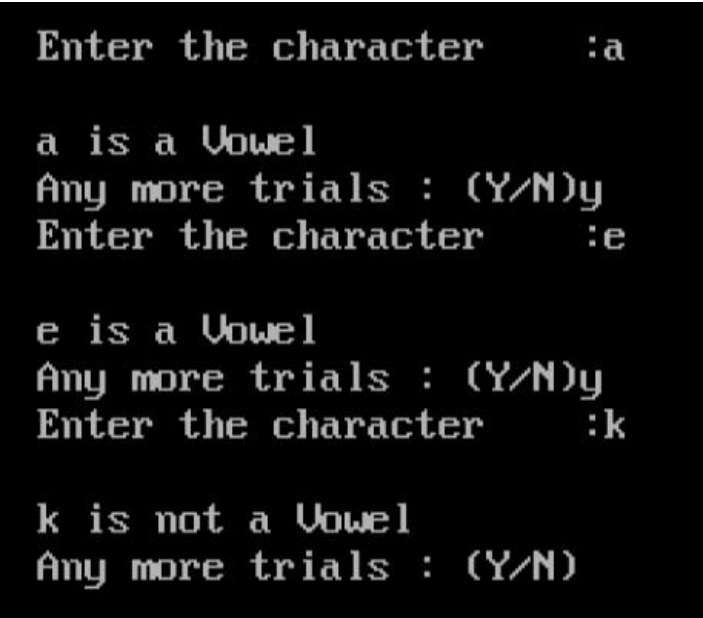
```
{
```

```
case 'a':
```

```
printf("\n %c is a Vowel",c);
```

```
break;
```

```
case 'e':  
    printf("\n %c is a Vowel",c);  
    break;  
case 'i':  
    printf("\n %c is a Vowel",c);  
    break;  
case 'o':  
    printf("\n %c is a Vowel",c);  
    break;  
case 'u':  
    printf("\n %c is a Vowel",c);  
    break;  
default :  
    printf("\n %c is not a Vowel",c);  
}  
printf("\n Any more trials : (Y/N)");  
resp=getche();  
}  
}
```



```
Enter the character :a  
  
a is a Vowel  
Any more trials : (Y/N)y  
Enter the character :e  
  
e is a Vowel  
Any more trials : (Y/N)y  
Enter the character :k  
  
k is not a Vowel  
Any more trials : (Y/N)
```

LAB 03 A: Title: for loop, do-while/while-do loop, if-else ladder, nested if.
Write a program to find factorial of a number.

```
/* Documentation Section */
```

```
/*Program no : 3A Use of for loop*/
```

```
/* To find factorial of a number*/
```

```
/* Link Section */
```

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

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

```
#include<ctype.h>
```

```
void main()
```

```
{
```

```
int n, i;
```

```
long int p =1;
```

```
clrscr();
```

```
printf("Enter the no :");
```

```
scanf("%d",&n);
```

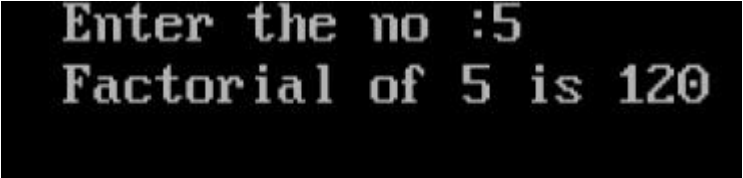
```
for(i=1;i<=n;i++)
```

```
    p = p*i;
```

```
printf("Factorial of %d is %ld\n",n,p);
```

```
getch();
```

```
}
```

A screenshot of a terminal window with a black background and green text. It shows the output of the program: "Enter the no :5" followed by "Factorial of 5 is 120".

```
Enter the no :5  
Factorial of 5 is 120
```

LAB 03 B: Title: for loop, do-while/while-do loop, if-else ladder, nested if.
Write a program to find sum and average of 'n' numbers.

/* Documentation Section */

/*Program no: 3B Use of do-while*/

/* To find sum and average of 'n' numbers*/

/* Link Section */

#include<stdio.h>

#include<conio.h>

#include<ctype.h>

void main()

{

int n, num, sum=0,i=1;

float avg;

clrscr();

printf("Enter no of numbers:");

scanf("%d",&n);

printf("Enter data\n");

do

{

printf("\nEnter the number :");

scanf("%d",&num);

sum = sum+num;

i = i+1;

}while(i<=n);

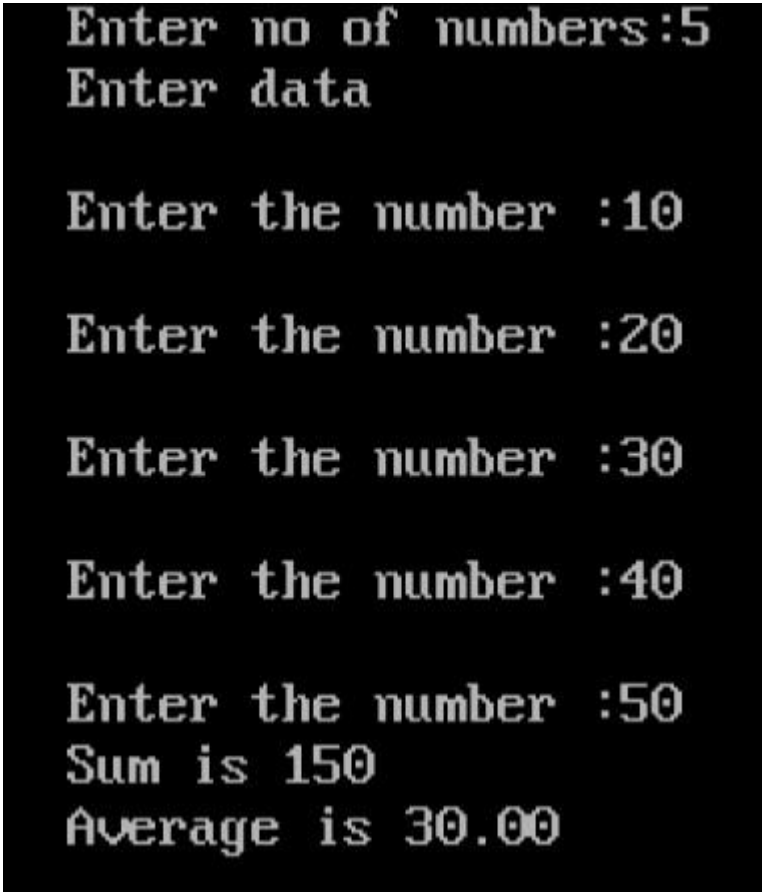
avg = (float) sum/n;

printf("Sum is %d\n",sum);

printf("Average is %.2f\n",avg);

getch();

}



Enter no of numbers:5
Enter data

Enter the number :10

Enter the number :20

Enter the number :30

Enter the number :40

Enter the number :50

Sum is 150

Average is 30.00

[Type here]

LAB 03 C: Title: for loop, do-while/while-do loop, if-else ladder, nested if.

Write a program to input name and marks of three subjects. Calculate total, percentage and grade the students according to given below slab.

Per	Grade
≥ 75 and ≤ 100	"O"
≥ 60 and < 75	"A"
≥ 50 and < 60	"B"
≥ 40 and < 50	"C"
≥ 0 and < 40	"D"

/* Documentation Section */

/*Program no : 3C Use of if else and logical Operators*/

/* Grade a student according to the given slab*/

/* Link Section */

#include<stdio.h>

#include<conio.h>

#include<ctype.h>

/*Definition Section*/

#define pf printf

#define sf scanf

main()

{

char name[20];

float m1,m2,m3,tot,per;

char grade;

clrscr();

printf("\nMay I have your name pls :");

scanf("%s",name);

printf("\nEnter marks of Subejct 1 :");

scanf("%f",&m1);

printf("\nEnter marks of Subject 2 :");

scanf("%f",&m2);

printf("\nEnter marks of Subject 3 :");

scanf("%f",&m3);

tot = m1+m2+m3;

per = tot/300*100;

[Type here]

```
if(per>=75 && per<=100)
    grade='O';
else
    if(per>=60 && per<75)
        grade='A';
    else
        if(per>=50&&per<60)
            grade='B';
        else
            if(per>=40&&per<50)
                grade='C';
            else
                if(per>=0 && per<40)
                    grade ='D';
pf("\n      RESULT      ");
pf("\n=====");
pf("\nName      : %s",name);
pf("\nMarks in Subject 1 : %.2f",m1);
pf("\nMarks in Subject 2 : %.2f",m2);
pf("\nMarks in Subject 3 : %.2f",m3);
pf("\nTotal      : %.2f",tot);
pf("\nPercentage   : %.2f",per);
pf("\nGRADE       : %c",grade);
if(grade=='O' || grade=='A' || grade=='B' || grade=='C')
    pf("\nCongratulations...");
else
    pf("\nWork hard");
pf("\n*****");
getch();}
```

May I have your name pls :Ajay

Enter marks of Subejct 1 :40

Enter marks of Subject 2 :50

Enter marks of Subject 3 :60

RESULT

=====

Name : Ajay

Marks in Subject 1 : 40.00

Marks in Subject 2 : 50.00

Marks in Subject 3 : 60.00

Total : 150.00

Percentage : 50.00

GRADE : B

Congratulations...

*****_

[Type here]

LAB 04 A: Title: Menu Driven Program, Functions and Recursion

Write a menu driven program to convert dollars to rupees and rupees to dollars.

/* Documentation Section*/

/* Prog No 4A : Menu Driven program */

/* To convert Dollars to Rupees and vice-a-versa*/

/* Link Section */

#include<stdio.h>

#include<conio.h>

#include<ctype.h>

void main()

{

int r,d,ch;

char resp;

up:clrscr();

puts("MENU");

puts("====");

puts("1.Rs. To \$");

puts("2. \$ to Rs");

puts("3. Exit");

puts("Enter your choice please..");

scanf("%d",&ch);

switch(ch)

{

default :

printf("\nInvalid Entry... Range 1..3");

break;

case 1:

printf("\nEnter the amt in Rs.");

scanf("%d",&r);

d=r/60;

printf("\n%d Rs.= %d \$",r,d);

break;

case 3:

exit(1);

[Type here]

```
break;
case 2:
printf("\nEnter no of dollars");
scanf("%d",&d);
r=d*60;
printf("%d $ = %d Rs.",d,r);
break;
}
printf("\nAny more trials ");
resp = getche();
if(resp=='Y' || resp=='y')
goto up;
getch();
}
```

```
MENU
=====
1.Rs. To $
2. $ to Rs
3. Exit
Enter your choice please..
1

Enter the amt in Rs.240

240 Rs.= 4 $
Any more trials _
```

```
MENU
=====
1.Rs. To $
2. $ to Rs
3. Exit
Enter your choice please..
2

Enter no of dollars2
2 $ = 120 Rs.
Any more trials _
```

```
MENU
=====
1.Rs. To $
2. $ to Rs
3. Exit
Enter your choice please..
4

Invalid Entry... Range 1..3
Any more trials _
```

[Type here]

LAB 04 B: Title: Menu Driven Program, Functions and Recursion

Write a program using functions to find reverse of a number and decide whether it is palindrome or not. Develop two functions getnum() and reverse() with proper prototypes.

```
/* Documentation Section*/
```

```
/* Prog No 4B : Use of Functions */
```

```
/* To reverse a number and decide whether it is palindrome or not*/
```

```
/* Link Section */
```

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

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

```
/* Prototypes */
```

```
int getnum(void);
```

```
int reverse(int);
```

```
void main()
```

```
{
```

```
int n, rev;
```

```
clrscr();
```

```
n = getnum();
```

```
rev= reverse(n);
```

```
printf("Reverse of %d is %d\n",n,rev);
```

```
if(rev==n)
```

```
    printf("%d is palindrome",n);
```

```
else
```

```
    printf("%d is not palindrome",n); getch();
```

```
}
```

```
int getnum(void)
```

```
{
```

```
int n;
```

```
printf("Enter the number"); scanf("%d",&n);
```

```
return(n);
```

```
}
```

[Type here]

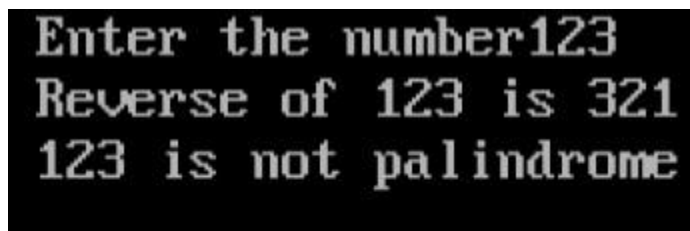
```
int reverse(int n)
{
int rev=0,d;
while(n !=0)
{
d = n%10;
rev = rev*10+d; n=n/10;
}
return(rev);
}
```

DRY RUN of an INPUT 123

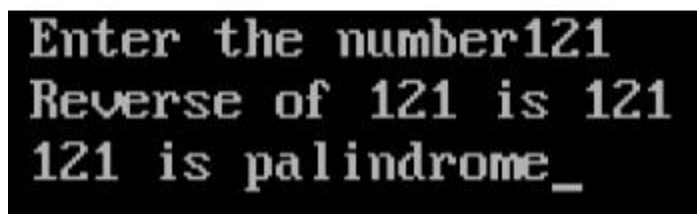
n= 123
d = n%10 123%10 = 3
rev = rev*10+d
 = 0+3 = 3

n= n/10 = 123/10 = 12.3 = 12
d = n%10 = 12%10 = 2
rev = 3*10 +2 = 32

n = n/10 = 12/10 = 1
d = n%10 = 1%10 = 1
rev = 32 * 10 + d = 321
n = n/10 = 1/10 = 0.1 = 0



Enter the number123
Reverse of 123 is 321
123 is not palindrome



Enter the number121
Reverse of 121 is 121
121 is palindrome_

[Type here]

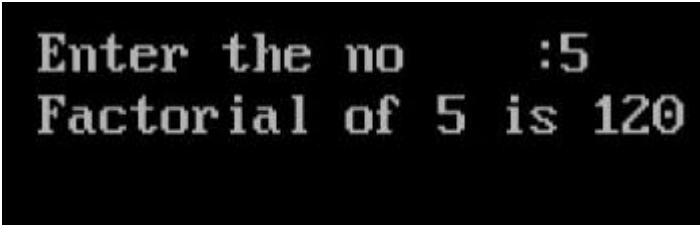
LAB 04 C: Title: Menu Driven Program, Functions and Recursion

Write a program to find factorial of a number using the concept of recursion.

```
/* Documentation Section */  
/* Prog No 4C : Use of Functions-Recursion */  
/* To find factorial of a number using recursion */
```

```
/* Link Section */  
#include<stdio.h>  
#include<conio.h>  
  
int factorial(int n);  
void main()  
{  
    int n;  
    clrscr();  
    printf("\nEnter the no:");  
    scanf("%d",&n);  
    if(n<0)  
        printf("Number should be a positive number");  
    else  
        printf("Factorial of %d is %d\n",n,factorial(n));  
    getch();  
}
```

```
int factorial(int n)  
{  
    if(n==0)  
        return(1);  
    else  
        return(n*factorial(n-1));  
}
```



```
Enter the no :5  
Factorial of 5 is 120
```

[Type here]

LAB 05A: Title: One Dimensional Array, Two Dimensional Arrays

Write a menu driven program to create one dimensional array, display it , find the sum of all the elements, find maximum and minimum element within the array, include the facility to search an element.

Finally sort the array.

```
/* Documentation Section*/
```

```
/* Prog No 5A : One Dimensional Array */
```

```
/* To create 1D array and perform various functions: Menu Driven*/
```

```
/* Link Section */
```

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

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

```
#define mx 10
```

```
#define pf printf
```

```
#define sf scanf
```

```
//prototypes
```

```
int printmenu(void);
```

```
void create(int a[mx]);
```

```
void display(int a[mx]);
```

```
void search(int a[mx], int ) ;
```

```
void maxmin(int a[mx]);
```

```
void sort(int a[mx]);
```

```
int noe;
```

```
void main()
```

```
{
```

```
int a[mx], ele,ch;
```

```
char resp;
```

```
do
```

```
{
```

```
clrscr();
```

```
ch = printmenu();
```

```
switch(ch)
```

```
{
```

```
case 1:
```

```
create(a);
```

```
break;
```

```
case 2:
```

```
display(a);
```

[Type here]

```
    break;
case 3:
    sort(a);
    break;
case 4:
    maxmin(a);
    break;
case 5:
    printf("Enter the element to search : ");
    scanf("%d",&ele);
    search(a,ele);
    break;
case 6:
    exit(1);
default :
    printf("Invalid Choice Range 1...6\n");
}
printf("Any more trials (Y/N) : ");
resp=getche();
}while(toupper(resp)=='Y');
getch();
}
void create(int a[mx])
{
    int i;
    printf("Enter no of elements :");
    scanf("%d",&noe);
    pf("Enter Data :");
    for(i=0;i<noe;i++)
    {
        pf("\nEnter element : ");
        sf("%d",&a[i]);
    }
}

void display(int a[mx])
{
    int i;
    pf("Array is\n");
    for(i=0;i<noe;i++)
        pf("%d\t",a[i]);
```

[Type here]

```
}  
void search(int a[mx], int ele )  
{  
    int i, found =0;  
    for(i=0;i<noe; i++)  
    {  
        if(a[i]==ele)  
        {  
            found =1;  
            break;  
        }  
    }  
    if(found==0)  
        pf("%d does not exist",ele);  
    else  
        pf("%d is at location %d",ele,i+1);  
}  
void maxmin(int a[mx])  
{  
    int i, max, min;  
    max= a[0];  
    min = a[1];  
    for(i=1;i<noe;i++)  
    {  
        if(a[i]>max)  
            max= a[i];  
        if(a[i]<min)  
            min = a[i];  
    }  
    printf("Greatest value is %d \n",max);  
    printf("Lowest value is %d\n",min);  
}
```

```
int printmenu(void)  
{  
    int ch;  
    puts("MENU");  
    puts("1.Create");  
    puts("2.Display");  
    puts("3.Sort");  
    puts("4.Max/Min");
```

[Type here]

```
puts("5.Search");
puts("6.Exit");
printf("Enter the choice : ");
scanf("%d",&ch);
return(ch);
}
void sort(int a[mx])
{
int i,j,temp;
for(i=0;i<noe-1;i++)
{
for(j=i+1;j<noe-1;j++)
{
if(a[i]>a[j])
{
temp = a[i];
a[i] = a[j];
a[j]=temp;
}
}
}
printf("Sorted Array is:\n");
display(a);
}
```

[Type here]

```
MENU
1.Create
2.Display
3.Sort
4.Max/Min
5.Search
6.Exit
Enter the choice : 1
Enter no of elements :3
Enter Data :
Enter element : 30

Enter element : 10

Enter element : 20
Any more trials (Y/N) : _
```

```
MENU
1.Create
2.Display
3.Sort
4.Max/Min
5.Search
6.Exit
Enter the choice : 2
Array is
30      10      20      Any more trials (Y/N) : _
```

```
MENU
1.Create
2.Display
3.Sort
4.Max/Min
5.Search
6.Exit
Enter the choice : 3
Sorted Array is:
Array is
10      20      30      Any more trials (Y/N) : _
```

```
MENU
1.Create
2.Display
3.Sort
4.Max/Min
5.Search
6.Exit
Enter the choice : 5
Enter the element to search : 20
20 is at location 2Any more trials (Y/N) :
```

[Type here]

LAB 05B: Title: One Dimensional Array, Two Dimensional Arrays

Write a program to create two arrays, find sum and difference of these two matrices.

```
/* Documentation Section */
/* Prog No 5B : Two Dimesional Array */
/* To create 2D array and perform various functions */
/* Link Section */
#include<stdio.h>
#include<conio.h>
#define mc 10
#define mr 10
#define pf printf
#define sf scanf
int m1[mr][mc], m2[mr][mc],m3[mr][mc], m4[mr][mc];
main()
{
int r, c, i,j;
clrscr();
pf("Enter no of rows : ");
sf("%d",&r);
pf("Enter no of cols : ");
sf("%d",&c);
pf("Enter data for Matrix 1 :\n");
for(i = 0;i<r;i++)
{
for(j = 0;j<c;j++)
{
pf("Enter element : ");
sf("%d",&m1[i][j]);
}
}
pf("Enter data for Matrix 2 :\n");
for(i = 0;i<r;i++)
{
for(j = 0;j<c;j++)
{
pf("Enter element : f");
sf("%d",&m2[i][j]);
}
}
```

[Type here]

```
}
for(i=0;i<r;i++)
{
for(j=0;j<c;j++)
{
m3[i][j]=m1[i][j]+m2[i][j];
m4[i][j]=m1[i][j]-m2[i][j];
}
}
printf("Matrix 1 is\n");
for(i=0;i<r;i++)
{
for(j=0;j<c;j++)
pf("%d ",m1[i][j]);
pf("\n");
}
printf("Matrix 2 is\n");
for(i=0;i<r;i++)
{
for(j=0;j<c;j++)
pf("%d ",m2[i][j]);
pf("\n");
}
printf("Added matrix is\n");
for(i=0;i<r;i++)
{
for(j=0;j<c;j++)
pf("%d ",m3[i][j]);
pf("\n");
}
printf("Subtracted Matrix is\n");
for(i=0;i<r;i++)
{
for(j=0;j<c;j++)
pf("%d ",m4[i][j]);
pf("\n");
}
getch();
}
```

[Type here]

```
Enter no of rows : 2
Enter no of cols : 2
Enter data for Matrix 1 :
Enter element : 1
Enter element : 2
Enter element : 3
Enter element : 4
Enter data for Matrix 2 :
Enter element : 5
Enter element : 6
Enter element : 7
Enter element : 8
Matrix 1 is
1 2
3 4
Matrix 2 is
5 6
7 8
Added matrix is
6 8
10 12
Subtracted Matrix is
-4 -4
-4 -4
-
```

[Type here]

LAB 6A: Title Array of structures, Pointers, File handling

Write a program using the concept of array of structures to create a list of students having the following fields rollno, name, marks[3], total Marks should be stored as an integer array.

```
/* Documentation Section */
/* Prog No 6A : Array of Structures */
/* Link Section */
#include<stdio.h>
#include<conio.h>
struct student
{
int rollno;
char name[20];
int std;
int marks[3];
}s[10];
main()
{
int i, nor;
clrscr();
printf("Enter no of records  : ");
scanf("%d",&nor);
printf("...Enter data....\n");
for(i = 0;i<nor;i++)
{
printf("Enter the rollno  : ");
scanf("%d",&s[i].rollno);
printf("Enter the name  : ");
scanf("%s",s[i].name);
printf("Enter the std  : ");
scanf("%d",&s[i].std);
printf("Enter marks of sub1 : ");
scanf("%d",&s[i].marks[0]);
printf("Enter marks of sub2 : ");
scanf("%d",&s[i].marks[1]);
printf("Enter marks of sub3 : ");
scanf("%d",&s[i].marks[2]);
}
printf("STD ROLLNO NAME SUB1 SUB2 SUB3 \n");
```

[Type here]

```
for(i=0;i<nor;i++)
printf("%d %d %s %d %d %d\n",
s[i].std, s[i].rollno,s[i].name, s[i].marks[0], s[i].marks[1],s
[i].marks[2]);
getch();
}
```

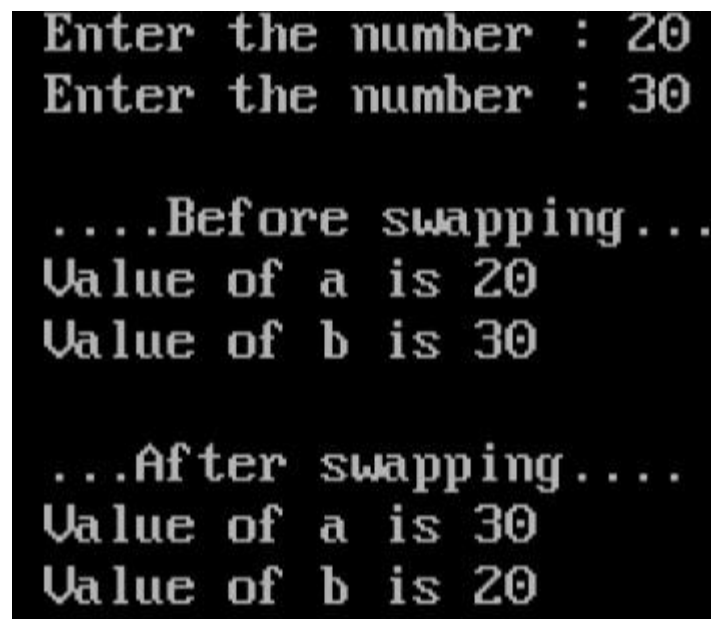
```
Enter no of records      : 2
...Enter data....
Enter the rollno        : 1
Enter the name          : Raj
Enter the std           : 1
Enter marks of sub1     : 10
Enter marks of sub2     : 20
Enter marks of sub3     : 30
Enter the rollno        : 2
Enter the name          : Mac
Enter the std           : 2
Enter marks of sub1     : 50
Enter marks of sub2     : 60
Enter marks of sub3     : 70
STD ROLLNO NAME SUB1 SUB2 SUB3
1    1    Raj    10   20   30
2    2    Mac    50   60   70
```

[Type here]

LAB 6B: Title Array of structures, Pointers, File handling.

Write a program to swap the values of two variables by using call by reference method in functions

```
/* Documentation Section */
/* Prog No 6B : Pointers */
/* To swap two numbers */
/* Link Section */
#include<stdio.h>
#include<conio.h>
#define pf printf // pf is macro
#define sf scanf
/* Prototypes */
int getno(void);
void swap(int *, int *);
main()
{
    int a, b;
    clrscr();
    a = getno();
    b=getno();
    printf("\n....Before swapping...\n");
    printf("Value of a is %d \n",a);
    printf("Value of b is %d \n",b);
    swap(&a, &b);
    printf("\n...After swapping....\n");
    printf("Value of a is %d \n",a);
    printf("Value of b is %d \n",b);
    getch();
}
void swap(int *a,int *b)
{ int temp;
  temp = *a;
  *a = *b;
  *b = temp;
}
int getno()
{
    int num;
    printf("Enter the number : ");
    scanf("%d",&num);
    return(num);
}
```



```
Enter the number : 20
Enter the number : 30

....Before swapping...
Value of a is 20
Value of b is 30

...After swapping....
Value of a is 30
Value of b is 20
```

[Type here]

}

LAB 6C: Title Array of structures, Pointers, File handling.

Write a program to create text file L1.txt which stores a line of text till the user presses enter. Copy this file to L2.txt.

```
/* Documentation Section*/
```

```
/* Prog No 6C : File Handling */
```

```
/* To create a file nd copy it to another file */
```

```
/* Link Section */
```

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

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

```
main()
```

```
{
```

```
FILE *fp, *fp1;
```

```
char ch;
```

```
clrscr();
```

```
fp = fopen("L1.dat","w");
```

```
if(fp==NULL)
```

```
{
```

```
printf("File creation error\n");
```

```
getch();
```

```
exit(1);
```

```
}
```

```
printf("Enter line of text : \n");
```

```
while((ch = getchar())!='\n')
```

```
    fputc(ch,fp);
```

```
fclose(fp);
```

```
fp = fopen("L1.dat","r");
```

```
if(fp==NULL)
```

```
{
```

```
printf("File opening error\n");
```

```
getch();
```

```
exit(1);
```

```
}
```

```
printf("Contents of Originl file L1 are : \n");
```

```
while((ch=fgetc(fp))!=EOF)
```

```
printf("%c",ch);
```

```
fclose(fp);
```

```
/******
```

```
fp = fopen("L1.dat","r");
```

```
if(fp==NULL)
```

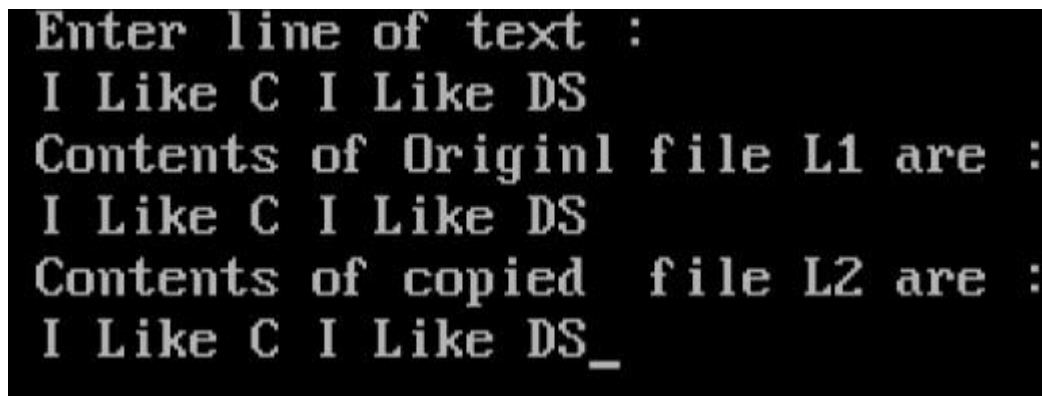
```
{
```

```
printf("File reading error\n");
```

```
getch();
```

[Type here]

```
    exit(1);
}
fp1=fopen("L2.dat","w+");
if(fp1==NULL)
{
    printf("File creation error\n");
    getch();
    exit(1);
}
while((ch=fgetc(fp))!=EOF)
    fputc(ch,fp1);
fclose(fp);
rewind(fp1);
printf("\nContents of copied file L2 are : \n");
while((ch=fgetc(fp1))!=EOF)
    printf("%c",ch);
fclose(fp1);
getch();
}
```



```
Enter line of text :
I Like C I Like DS
Contents of Originl file L1 are :
I Like C I Like DS
Contents of copied file L2 are :
I Like C I Like DS_
```

[Type here]