Week 1 1bm21cs238

SOURCE CODE: -

#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

void add();

void subtract();

void multiply();

int m1[3][3];

int m2[3][3];

int m3[3][3];

int i,j,k;

void main()

{

int c;

printf("Enter your choice:\n");

while(1)

{

printf("1:Add\n 2:Subtract\n 3:Multiplication\n 4.Exit\n");

scanf("%d",&c);

switch(c)

{

case 1: add();

break;

case 2: subtract();

break;

case 3: multiply();

break;

case 4: exit(0);

break;

default: printf("Wrong choice");

}

}

}

void add()

{

printf("Enter the input for the first 3\*3 matrix one by one\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

scanf("%d",&m1[i][j]);

}

}

printf("Enter the input for the second 3\*3 matrix one by one\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

scanf("%d",&m2[i][j]);

}

}

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

m3[i][j]=m1[i][j] + m2[i][j];

}

}

printf("The first matrix you entered is:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m1[i][j]);

}

printf("\n");

}

printf("The second matrix you entered is:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m2[i][j]);

}

printf("\n");

}

printf("the addition matrix of the two matrices are:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m3[i][j]);

}

printf("\n");

}

}

void subtract()

{

printf("Enter the input for the first 3\*3 matrix one by one\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

scanf("%d",&m1[i][j]);

}

}

printf("Enter the input for the second 3\*3 matrix one by one\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

scanf("%d",&m2[i][j]);

}

}

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

m3[i][j]=m1[i][j] - m2[i][j];

}

}

printf("The first matrix you entered is:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m1[i][j]);

}

printf("\n");

}

printf("The second matrix you entered is:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m2[i][j]);

}

printf("\n");

}

printf("the subtraction matrix of the two matrices are:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m3[i][j]);

}

printf("\n");

}

}

void multiply()

{

printf("Enter the input for the first 3\*3 matrix one by one\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

scanf("%d",&m1[i][j]);

}

}

printf("Enter the input for the second 3\*3 matrix one by one\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

scanf("%d",&m2[i][j]);

}

}

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

m3[i][j]=0;

for(k=0;k<3;k++)

{

m3[i][j]+=m1[i][k]\*m2[k][j];

}

}

}

printf("The first matrix you entered is:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m1[i][j]);

}

printf("\n");

}

printf("The second matrix you entered is:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m2[i][j]);

}

printf("\n");

}

printf("the multiplication matrix of the two matrices are:\n");

for(i=0;i<3;i++)

{

for(j=0;j<3;j++)

{

printf("%d\t",m3[i][j]);

}

printf("\n");

}

}

OUTPUT:





