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Roll N0:118

Practicle Name:Implementation of program based on Martrices.

Practicle No:2.2

#include<iostream.h>

#include<conio.h>

class MATRIX

{

int r1, c1, r2, c2, r3, c3;

int A[5][5],B[5][5],C[5][5];

public:

void READ\_MATRIX();

void SHOW\_MATRIX();

void ADD\_MATRIX();

void SUB\_MATRIX();

void MUL\_MATRIX();

};

void MATRIX::READ\_MATRIX()

{

cout<<"\nEnter no or rows matrix 1: ";

cin>>r1;

cout<<"\nEnter no or rows matrix 1: ";

cin>>c1;

cout<<"\nEnter no or rows matrix 2: ";

cin>>r2;

cout<<"\nEnter no or rows matrix 2: ";

cin>>c2;

cout<<"\nEnter matrix 1 elements: ";

for(int i=1;i<=r1;i++)

for(int j=1;j<=c1;j++)

cin>>A[i][j];

cout<<"\nEnter matrix 2 elements: ";

for(i=1;i<=r2;i++)

for(j=1;j<=c2;j++)

cin>>B[i][j];

}

void MATRIX::SHOW\_MATRIX()

{

cout<<endl<<"Matrix 1 elements are: ";

for(int i=1;i<=r1;i++)

{

for(int j=1;j<=c1;j++)

cout<<A[i][j];

cout<<"\n";

}

cout<<endl<<"Matrix 2 elements are: ";

for(int k=1;k<=r2;k++)

{

for(int j=1;j<=c2;j++)

cout<<B[k][j];

cout<<"\n";

}

cout<<endl<<"Matrix 3 elements are: ";

for(k=1;k<=r2;k++)

{

for(int j=1;j<=c2;j++)

cout<<C[k][j];

cout<<"\n";

}

}

void MATRIX::ADD\_MATRIX()

{

if(r1==r2 && c1==c2)

for(int i=1; i<=r2; i++)

for(int j=1; j<=c2; j++)

C[i][j]=A[i][j]+B[i][j];

else

cout<<endl<<"Addi ..not..";

}

void MATRIX::SUB\_MATRIX()

{

if(r1==r2 && c1==c2)

for(int i=1; i<=r2; i++)

for(int j=1; j<=c2; j++)

C[i][j]=A[i][j]-B[i][j];

else

cout<<endl<<"...sun not...";

}

void MATRIX::MUL\_MATRIX()

{

if(c1==r2)

for(int i=1; i<=r2; i++)

for(int j=1; j<=c2;j++)

{

C[i][j]=0;

for(int k=1; k<=c1; k++)

C[i][j]+=A[i][k]\*B[k][j];

}

else

cout<<endl<<"multi...not..";

}

void main()

{

int option;

MATRIX obj;

clrscr();

obj.READ\_MATRIX();

do

{

cout<<"\nEnter the Choice: "<<endl;

cin>>option;

switch(option)

{

case 1:

cout<<endl<<"Addition of matrix: ";

obj.ADD\_MATRIX();

obj.SHOW\_MATRIX();

break;

case 2:

cout<<endl<<"Subtraction of matrix: ";

obj.SUB\_MATRIX();

obj.SHOW\_MATRIX();

break;

case 3:

cout<<endl<<"Multiplication of matrix: ";

obj.MUL\_MATRIX();

obj.SHOW\_MATRIX();

break;

case 4:

cout<<"Exit"<<endl;

break;

default :

cout<<"\nInvalid Choice"<<endl;

}

}while(option!=4);

getch();

}