#include<iostream>

using namespace std;

int main(){

int mat[3][3], i, j;

int determinant = 0;

cout<<"Enter elements of matrix row wise:\n";

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

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

cin>>mat[i][j];

printf("\nGiven matrix is:");

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

cout<<"\n";

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

cout<<mat[i][j]<<"\t";

}

//finding determinant

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

determinant = determinant + (mat[0][i] \* (mat[1][(i+1)%3] \* mat[2][(i+2)%3] - mat[1][(i+2)%3] \* mat[2][(i+1)%3]));

cout<<"\n\ndeterminant: "<<determinant;

cout<<"\n\nInverse of matrix is: \n";

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

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

cout<<((mat[(j+1)%3][(i+1)%3] \* mat[(j+2)%3][(i+2)%3]) - (mat[(j+1)%3][(i+2)%3] \* mat[(j+2)%3][(i+1)%3]))/ determinant<<"\t";

cout<<"\n";

}

return 0;

}

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