```
/*
Name of student:- Swami Amit Bandu
Roll No:-2221018
Assignment No:-3
Title of Assignment:-Write a python program that determines
the location of a saddle point of matrix if one exists.
*/
#include<iostream>
using namespace std;
class Matrix {
	public: //Privatemembers
		int a[10][10],b[10][10],ar,ac,br,bc;
		void input();
		void add();
		void sub();
		void mul();
		void saddle();
};
void Matrix::input()
{
					//TOGIVEINPUTFROMUSER
	int i,j;
	cout<<"Enter order of A matrix"<<endl;
	//Amatrixinput
	cin>>ar>>ac;
	cout<<"Enter elements of A=";
	for(i=0; i<ar; i++)
	{
		for(j=0; j<ac; j++)
```

```
		{
			cin>>a[i][j];
		}
	}
	cout<<"Matrix A:"<<endl;
	for(i=0; i<ar; i++)
	{
		for(j=0; j<ac; j++)
		{
			cout<<a[i][j]<<"";
		}
		cout<<endl;
	}
}
void Matrix::saddle() { //SADDLEPOINTOFMATRIX
	int i,j,min,max,big[3],small[3];
	if(ar==ac)
	{
		for(i=0; i<3; i++)
		{
			big[i]=a[i][0];
			for(j=0; j<3; j++)
			{
				if(a[i][j]>big[i])
				{
					big[i]=a[i][j];
				}
			}
		}
```

```
        min=big[0];
        for(i=0; i<3; i++)
        {
                if(min>big[i])
                {
                        min=big[i];
                }
        }
        for(i=0; i<3; i++)
        {
                small[i]=a[0][i];
                for(j=0; j<3; j++)
                {
                        if(a[j][i]<small[i])
                        {
                                small[i]=a[i][j];
                        }
                }
        }
        max=small[0];
        for(i=0; i<3; i++)
        {
                if(max<small[i])
                {
                        max=small[i];
                }
        }
}
if(min==max)
```

```
        {
                cout<<"saddle point of A is="<<min<<endl;
        } else
        {
                cout<<"NO saddle point found"<<endl;
        }
}
int main() { //MAINFUNCTION
        int ch;
        Matrix ob;
        ob.input();
        ob.saddle();
}
/*
OUTPUT:
Enter order of Amatrix
33
Enter elements of A=123456789
Matrix A:
123
456
789
saddle point of A is=3
*/
```