```
/*

Q3.  Write a program to store details of a school.
A class 'person' shows name, age, address. A class 'student' has rollno,
marks and also has all details of person. A class 'teacher' has empno and
experience along with all details of a person. Implement this using
inherited classes.

*/

#include <iostream>
using namespace std;
class mat
{ int s[10][10];
  int u,v;
  public:
        void show();
        mat operator +(mat);
        mat operator *(mat);
        mat operator -(mat);
        void read();
};
mat mat::operator+(mat uu2)                    //Addition operator
{ mat t;
  t.u=u;
  t.v=v;
  cout<<t.u;
  cout<<t.v;
    for(int i=0;i<t.u;i++)
      for(int j=0;j<t.v;j++)
          t.s[i][i]=s[i][i]+uu2.s[i][i];
    return t;
}
mat mat::operator*(mat uu2)                      //multiplication operator
{   mat t;
    t.u=u;
    t.v=uu2.v;
      for(int i=0;i<t.u;i++)
          for(int j=0;j<t.v;j++)
            {
              t.s[i][i]=0;
              for(int k=0;k<v;k++)
                  t.s[i][j]+=s[i][k]*uu2.s[k][j];
            }
          return t;
```

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}
mat mat ::operator -(mat uu2)                           //Subtraction operator
{
    mat t;
  t.u=u;
  t.v=v;
  cout<<t.u;
  cout<<t.v;
    for(int i=0;i<t.u;i++)
      for(int j=0;j<t.v;j++)
          t.s[i][i]=s[i][i]-uu2.s[i][i];
    return t;
}
 void mat::read()                                  //input function
{    cout<<"Enter Size of Matrix :\n";
     cin>>u>>v;
     cout<<"Enter the Elements of Matrix :\n";
       for(int i=0;i<u;i++)
          for(int j=0;j<v;j++)
              cin>>s[i][j];
}
void mat::show()                                   //output function
{   for(int i=0;i<u;i++)
      {  for(int j=0;j<v;j++)
            {   cout<<s[i][j]<<"\t";
            }
          cout<<"\n";
      }
    }
  int main()
 { mat obj1 ,obj2,obj3;
 cout<<"Enter First Matrix\n";
    obj1.read();
    cout<<"Enter Second Matrix\n";
    obj2.read();
    obj3=obj1 +obj2;
    cout<<"Result After Addition of two Matrix\n";
    obj3.show();
    obj3=obj1 *obj2;
    cout<<"Result After Multiplication of two Matrix\n";
    obj3.show();
    obj3=obj1 -obj2;
    cout<<"Result After Addition of two Matrix\n";
    obj3.show();
```

```
        }
```

## OUTPUT

```
"D:\Learning\codeblock\ass3q4 matrices operations\bin\Debug\ass3q4 matrices operations.exe"
Enter First Matrix
Enter Size of Matrix :
1
1
Enter the Elements of Matrix :
1
Enter Second Matrix
Enter Size of Matrix :
1
1
Enter the Elements of Matrix :
23
11Result After Addition of two Matrix
24
Result After Multiplication of two Matrix
23
11Result After Addition of two Matrix
-22

Process returned 0 (0x0)   execution time : 19.569 s
Press any key to continue.
```