```
//Reading and displaying 2d array elements using class and object
#include <iostream>
using namespace std;
class example
{
   int a[2][2];
   public:
   void input()
   {
      cout<<"\nEnter array elements:";
      for(int i=0;i<2;i++)
      {
         for(int j=0;j<2;j++)
         {
         cin>>a[i][j];
         }
      }
   }
   void display()
   {
      cout<<"\nArray elements are:";
      for(int i=0;i<2;i++)
      {
         cout<<"\n";
         for(int j=0;j<2;j++)
         {
            cout<<a[i][j]<<" ";
         }
      }
   }
};
int main()
{
   example obj;
   obj.input();
   obj.display();
   return 0;
}
#include<iostream>
using namespace std;
class matrix_sum
{
int a[50][50],b[50][50],c[50][50];
int n,m;
public:
void getdata()
{
int i,j;
cout<<"\n Enter value of n(rows) and m(columns):"<<endl;
```

```
cin>>n>>m;
cout<<"\n Enter array elements:"<<endl;
// Taking input using nested for loop
   cout<<"Enter elements of 1st matrix\n";
   for(i=0; i<n; ++i)
   {
   for(j=0; j<m; ++j)
    {
       cin>>a[i][j];
    }
   }
  // Taking input using nested for loop
   cout<<"Enter elements of 2nd matrix\n";
   for(i=0; i<n; ++i)
   {
    for(j=0; j<m; ++j)
    {
       cin>>b[i][j];
    }
   }
}
void sum()
{
   int i,j;
// adding corresponding elements of two arrays
   for(i=0; i<n; ++i)
   {
    for(j=0; j<m; ++j)
    {
       c[i][j] = a[i][j] + b[i][j];
    }
   }
}
void show()
{
    int i,j;
    // Displaying the sum
   cout<<"\nSum Of Matrix:\n";
   for(i=0; i<n; ++i)
   {
    for(j=0; j<m; ++j)
    {
       cout<<c[i][j]<<" ";
    }
         cout<<"\n";
    }
}
};
int main()
```

```
{
   matrix_sum obj1;
   obj1.getdata();
   obj1.sum();
   obj1.show();
}
#include<iostream>
using namespace std;
class multiplymatrix
{
int a[10][10], b[10][10], result[10][10], r1, c1, r2, c2;
public:
void getdata()
{
  int i,j;
  cout<<"Enter rows and column for first matrix:"<<endl;
  cin>>r1>>c1;
  cout<<"Enter rows and column for second matrix:"<<endl;
  cin>>r2>>c2;
  // Column of first matrix should be equal to column of second matrix and
   while (c1 != r2)
   {
      cout<<"Error! No. of columns of first matrix not equal to no.of row of second."<<"\n\n";
      cout<<"Enter rows and column for first matrix:";
      cin>>r1>>c1;
      cout<<"Enter rows and column for second matrix:"<<endl;
      cin>>r2>>c2;
   }

   // Storing elements of first matrix.
   cout<<"\nEnter elements of matrix 1:\n";
   for(i=0; i<r1; ++i)
   {
      for(j=0; j<c1; ++j)
      {
         cin>>a[i][j];
      }
   }

   // Storing elements of second matrix.
   cout<<"\nEnter elements of matrix 2:\n";
   for(i=0; i<r2; ++i)
   {
      for(j=0; j<c2; ++j)
      {
         cin>>b[i][j];
      }
   }
```

```
}
void multiply_operation()
{
   int i,j,k;
// Initializing all elements of result matrix to 0
   for(i=0; i<r1; ++i)
   {
      for(j=0; j<c2; ++j)
      {
         result[i][j] = 0;
      }
   }
   // Multiplying matrices a and b and
   // storing result in result matrix
   for(i=0; i<r1; ++i)
   {
      for(j=0; j<c2; ++j)
      {
         for(k=0; k<c1; ++k)
         {
            result[i][j]+=a[i][k]*b[k][j];
         }
      }
   }
}
   void show()
   {
      int i,j;
   // Displaying the result
   cout<<"\nOutput Matrix:\n";
   for(i=0; i<r1; ++i)
   {
      for(j=0; j<c2; ++j)
      {
         cout<<result[i][j]<<" ";
      }
            cout<<"\n\n";
   }

}
};
int main()
{
   multiplymatrix obj1;
   obj1.getdata();
   obj1.multiply_operation();
   obj1.show();
}
//Initializing string object
```

```
#include<iostream>
using namespace std;
int main()
{
string a="Hello";
string b(a);
string c("Hello");
string d;
d="Hello";
cout<<a<<" "<<b<<" "<<c<<" "<<d;
return 0;
}
//Initializing string object
#include<iostream>
using namespace std;
int main()
{
string a="Hello";
string b(a);
string c("Hello");
string d,e;
d="Hello";
cout<<a<<" "<<b<<" "<<c<<" "<<d;
cout<<"\nEnter string object value:";
getline(cin,e);
cout<<endl<<e;
return 0;
}
//size() and length()
#include<iostream>
using namespace std;
int main()
{
string a("Hello");
cout<<a.size()<<" "<<a.length();
return 0;
}
#include<iostream>
using namespace std;
int main()
{
   string s1("12345");
   string s2("abcdefghijkl");
   cout<<"\n Using append with 1 parameter: ";
   s1.append(s2);
   cout<<s1<<endl;
   cout<<"\n Using append with 3 parameters: ";
   s1.append(s2,2,3);
   cout<<s1<<endl;
```

```
    string s3("Hello");
    string s4("World");
    string s5("Yes");
    string s6("Programming");
    s3.insert(1,s4);
    cout<<"\n Using insert function:";
    cout<<s3<<endl;
    s4.replace(1,3,s5);
    cout<<"\n Using replace function:";
    cout<<s4<<endl;
    s6.erase(1,4);
    cout<<"\n Using erase function:";
    cout<<s6<<endl;
    s6.clear();
    cout<<"Output after clear()"<<s6.length()<<" "<<s6.size();
    return 0;
}
#include<iostream>
using namespace std;
int main()
{
   string s1 = "arlcome";
   string s2 = "wearweea";
   cout<<s2.find("wear")<<endl;
   cout<<s2.rfind("we")<<endl;
   cout<<s2.find_last_of('e')<<endl;
   cout<<s2.find_first_of('e')<<endl;
   cout<<s2.at(0)<<endl;
   s1.swap(s2);
   cout<<s1<<" "<<s2<<endl;
   s2.resize(3);
   cout<<s2;
   return 0;
}
#include<iostream>
using namespace std;
int main()
{
   string s1 = "acme";
   string s2 = "zbcrome";
   cout<<s1.compare(s2)<<endl;
   cout<<s1.compare(2,2,s2,5,2)<<endl;
   cout<<s1.compare(2,2,s2);
   return 0;
}
```