```
1  namespace Delegado6
2  {
3      public class Student
4      {
5          private string _name;
6          private int _age;
7
8          public string Name
9          {
10             get { return _name; }
11             set { _name = value; }
12         }
13         public int Age
14         {
15             get { return _age; }
16             set { _age = value; }
17         }
18         public Student()
19         {
20
21         }
22         public Student (string name, int age)
23         {
24             _name = name;
25             _age = age;
26         }
27     }
28 }
```

```
namespace Delegado6
{
    public delegate bool DelegateFilter(Student student);
    public delegate int DelegateSort(Student student, Student student2);
    public class Classroom
    {
        private List<Student> _studentsList = new List<Student>();

        public void CreateList()
        {
            Student s1 = new Student() { Age = 15, Name = "Peter" };
            _studentsList.Add(s1);

            Student s2 = new Student() { Age = 25, Name = "Sarah" };
            _studentsList.Add(s2);

            Student s3 = new Student() { Age = 42, Name = "Leroy" };
            _studentsList.Add(s3);

            Student s4 = new Student() { Age = 2, Name = "Nina" };
            _studentsList.Add(s4);

            Student s5 = new Student() { Age = 65, Name = "Large" };
            _studentsList.Add(s5);
        }

        public List<string> Filter(DelegateFilter del)
        {
            List<string> listResultNames = new List<string>();
            for (int i = 0; i < _studentsList.Count; i++)
            {
                if (del(_studentsList[i]))
                {
                    listResultNames.Add(_studentsList[i].Name);
                }
            }
            return listResultNames;
        }

        public List<Student> Sort(DelegateSort del)
        {
            List<Student> list = _studentsList;

            for(int j = 0; j < list.Count - 1; j++)
            {
                for (int i = j + 1; i < list.Count; i++)
                {
                    if (del(list[j], list[i]) >= 1)
                    {
                        Student aux;
                        aux = list[j];
                        list[j] = list[i];
                        list[i] = aux;
```

```
54                      }
55                  }
56              }
57              return list;
58          }
59
60          public void DisplayNames()
61          {
62              foreach (Student s in _studentsList)
63              {
64                  Console.WriteLine(s.Name);
65              }
66          }
67      }
68  }
69
```

```
1  namespace Delegado6
2  {
3      internal class Program
4      {
5          static void Main(string[] args)
6          {
7              Classroom c1 = new Classroom();
8
9              c1.CreateList();
10             c1.DisplayNames();
11
12             // LAMBDA Filter
13             List<string> listFilter = new List<string>();
14             listFilter = c1.Filter((student) =>
15             {
16                 if (student.Name == "Sarah")
17                     return true;
18                 return false;
19             });
20
21             foreach(string s in listFilter)
22             {
23                 Console.WriteLine(s);
24             }
25
26             // LAMBDA Sort
27             List<Student> listSort = new List<Student>();
28             listSort = c1.Sort((student, student2) =>
29             {
30                 if (student.Age > student2.Age)
31                     return 1;
32                 else
33                     return -1;
34             });
35
36             foreach(Student s in listSort)
37             {
38                 Console.WriteLine(s.Age);
39             }
40         }
41     }
42 }
```