Answer on Question#37723- Programming, C#

1. You are going to implement a command-line student management system.
   Users can type four commands (case insensitive):
   • Create command to create new student record with 4 pieces of information separated by comma: student ID (string), name (string), major (string), GPA (floating point)
   o For example: create:105,Alice,EECS,2.54
   • Sort command to display all the student records in sorted order either by name or by GPA (the sorting criteria is case insensitive)
   o For example: sort:name
   • Search command to find a student record by the student ID
   o For example: search:105

Solution.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Collections;


namespace ConsoleApplication1
{
    class Program
    {
        static void Main(string[] args)
        {
            PrintResult pr = new PrintResult();
            pr.Print();


            Console.Read();
        }


    }

    public class Student
    {
        public string ID;
        public string name;
        public string major;
        public double GPA;



        public void View()
        {

            Console.WriteLine(ID + " " + name + " " + major + " " + GPA);
        }
    }
```

```
    class PrintResult
    {

         SortedList<string, Student> std;

        public PrintResult()
        {
           std= new SortedList<string, Student>();
        }

        public void GetData()
        {
            Student stud = new Student();
            Console.WriteLine("Enter the ID of the student:");
            stud.ID = Console.ReadLine();
            Console.WriteLine("Enter the name of the student:");
            stud.name = Console.ReadLine();
            Console.WriteLine("Enter the major of the student:");
            stud.major = Console.ReadLine();
            Console.WriteLine("Enter the GPA of the student:");
            stud.GPA = Convert.ToDouble(Console.ReadLine());

            std.Add(stud.ID, stud);
            returnPrint();
        }

        public void Print()
        {

            Console.Clear();
            Console.WriteLine("Select the menu item:");
            Console.WriteLine("====================\n");
            Console.WriteLine("1. Create command to create new student record");
            Console.WriteLine("2. Sort command to display all the student records in sorted
order either by name or by GPA");
            Console.WriteLine("3. Search command to find a student record by the student
ID");
            Console.WriteLine("4. Show all students");
            string sMenu;

            sMenu = Console.ReadLine();
            switch (sMenu)
            {
                case "1":
                    { GetData(); break; }
                case "2":
                    { Sort(); break; }
                case "3":
                    { Find(); break; }
                case "4":
                    { AllView(); break; }

                default:
                    { Console.WriteLine("Wrong the chosen menu item!"); returnPrint();
break; }
            }

        }

        public void Find()
        {
            string s;
            s = Console.ReadLine();
```

```
                std[s].View();

                returnPrint();
        }

        public void AllView()
        {
            foreach (string s in std.Keys)
            {
                std[s].View();
            }
            returnPrint();
        }

        public void Sort()
        {
            SortedList s = new SortedList();

            Console.WriteLine("1.By Name " + "2. By GPA");
            if (Console.ReadLine() == "1")
            {
                foreach (string sid in std.Keys)
                {
                    s.Add(std[sid].name, std[sid]);
                }

                for (int i = 0; i < s.Count; i++)
                {
                    Console.WriteLine("{0}", s.GetKey(i).ToString());
                }
            }

            if (Console.ReadLine() == "2")
            {

                foreach (string sid in std.Keys)
                {
                    s.Add(std[sid].GPA, std[sid]);
                }

                for (int i = 0; i < s.Count; i++)
                {
                    Console.WriteLine("{0}", s.GetKey(i));
                }
            }
            returnPrint();
        }

        public void returnPrint()
        {
            Console.WriteLine("Return in main menu?\n" + "1. Yes " + "2. No");
            if (Console.ReadLine() == "1") { Print(); }

        }

    }
}
```

You can also run the file in the attached file .exe