**Data Structures**

**Practice Project**

**Source code:**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.IO;

using System.Diagnostics;

using System.Text.RegularExpressions;

using static System.Net.Mime.MediaTypeNames;

using System.Globalization;

using System.Runtime.Remoting.Messaging;

using static System.Net.WebRequestMethods;

using File = System.IO.File;

using System.Runtime.CompilerServices;

namespace Rainbow

{

public class sort

{

public string Name;

public int std;

public List<sort> ReadUserFile()

{

List<sort> lstUser;

string[] content1 = File.ReadAllLines("G:\\C#\\students\_details\_list.txt");

if (content1 != null)

{

string[] s1;

lstUser = new List<sort>();

for (int i = 0; i < content1.GetLength(0); i++)

{

s1 = Regex.Split(content1[i], ",");

//need some validation

if (s1 != null && s1.GetLength(0) > 1)

{

sort obj = new sort();

obj.Name = s1[0];

int.TryParse(s1[1], out obj.std);

lstUser.Add(obj);

}

}

Console.WriteLine("Sorting based on names:");

Console.WriteLine("---------------------------------------");

foreach (var i in lstUser.OrderBy(o => o.Name).ToList())

{

Console.WriteLine("Name:" + i.Name + " ->Class:" + i.std);

}

// return lstUser.OrderBy(o => o.Name).ToList();

Console.WriteLine("---------------------------------------");

}

else

{

Console.WriteLine("Empty!!");

}

return null ;

}

public static void search()

{

var content = File.ReadAllLines("G:\\C#\\students\_details\_list.txt");

Console.WriteLine("Enter the word to search:");

Console.WriteLine("---------------------------------------");

string f = Console.ReadLine();

foreach (string line in content)

{

if (line.Contains(f))

{

Console.WriteLine(line);

Console.WriteLine("Found !!");

}

}

Console.WriteLine("-------------------------------------");

Console.WriteLine("Search Using Stream Reader class : ");

using (var sr = new StreamReader("G:\\C#\\students\_details\_list.txt"))

{

while (!sr.EndOfStream)

{

var line = sr.ReadLine();

if (String.IsNullOrEmpty(line)) continue;

if (line.IndexOf(f, StringComparison.CurrentCultureIgnoreCase) >= 0)

{

Console.WriteLine(line);

Console.WriteLine("Found !!");

Console.WriteLine("---------------------------------------");

}

}

//Console.WriteLine("Not found..");

}

}

static void Main(string[] args)

{

var content = File.ReadAllLines("G:\\C#\\students\_details\_list.txt");

char ch;

Console.WriteLine("Contents in file:");

Console.WriteLine("---------------------------------------");

foreach (string line in content)

{

Console.WriteLine(line);

}

Console.WriteLine("---------------------------------------");

do {

Console.WriteLine("Enter your choice: \n 1.sort \n 2.search");

int n = Convert.ToInt32(Console.ReadLine());

switch (n)

{

case 1:

sort s = new sort();

s.ReadUserFile();

break;

case 2:

search();

break;

}

Console.WriteLine("Do u want to continue press y or Y:");

ch = Convert.ToChar(Console.ReadLine());

} while (ch == 'Y' || ch == 'y');

Console.ReadLine();

}

}

}