WRAV102/MSEV102: Practical 4

*Submit in Moodle before Monday 3 October 14:00*

**Add your name, surname and student number in the space provided below:**

Name and Surname: Ayabonga Kemese

Student number: s225175614

**Combine all your tasks into one file to submit in Moodle:**

1. Add your personal details in the space provided above.
2. Copy your code from the .cs file in Visual Studio to the provided space under the relevant heading. *Copy all your code – from line 1 up to the last curly bracket (remember that your will have more than one file containing code for the task).*
3. Use the SAVE AS functionality to save your document with your student number in the filename – P6-*studentnumber.*docx (e.g. P6-*224390000*, *where you have your student number after the -*)

**Submit your file in Moodle:**

1. Return to the WRAV102/MSEV102 Moodle site – upload your Word document to the Prac 6 link in the *Week 9* section.

**Task**

**Solution Code:**

**Patient.cs file**

*<<Copy and paste your code from the Patient.cs file here>>*

global using global::System;

global using global::System.Collections.Generic;

global using global::System.IO;

namespace Patient\_list

{ class patient

{

int patientNo;

string surname, initials;

double bill;

public patient(int patientNo, string surname, string initials, double bill)

{

this.patientNo = patientNo;

this.surname = surname;

this.initials = initials;

this.bill = bill;

}

public void Bills(double bills)

{

Console.WriteLine("The patients bill is {0:c}", bill);

}

}

}

**PatientList.cs file**

*<<Copy and paste your code from the PatientList.cs file here>>*

**Program.cs file**

*<<Copy and paste your code from the Program.cs file here>>*

global using global::System;

global using global::System.Collections.Generic;

global using global::System.IO;

namespace Patient\_list

{

internal class Program

{

static void Main(string[] args)

{

List<patient> patients = new List<patient>();

stream(patients);

int menu = 0;

while (menu != 7)

{

Mainmenu();

menu = Convert.ToInt32(Console.ReadLine());

switch (menu)

{

case 1:

PatientAdd(patients);

break;

case 2:

for (int i = 0; i < patients.Count; i++)

{ Console.WriteLine(patients[i]); }

break;

case 3:

Console.WriteLine("There are " + patients.Count + " in the list.");

break;

case 4:

bubbleSort(patients);

break;

case 5:

selectionSort(patients);

break;

case 6:

insertionSort(patients);

break;

}

}

Console.WriteLine(patients.Count);

}

static void PatientAdd(List<patient> patientInfo)

{

string surname, initial;

int patientNo;

double balance;

Console.Write("Enter patient number : ");

patientNo = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter patient surname : ");

surname = Console.ReadLine();

Console.Write("Enter patient initials : ");

initial = Console.ReadLine();

Console.Write("Enter balance due : ");

balance = Convert.ToDouble(Console.ReadLine());

patient patient = new patient(patientNo, surname, initial, balance);

patientInfo.Add(patient);

}

static void bubbleSort(List<patient> patientInfo)

{

patient[] patientArray = patientInfo.ToArray();

int temp = 0;

for (int write = 0; write < patientArray.Length; write++)

{

for (int sort = 0; sort < patientArray.Length - 1; sort++)

{

if (patientArray[sort] > patientArray[sort + 1])

{

temp = patientArray[sort + 1];

patientArray[sort + 1] = patientArray[sort];

patientArray[sort] = temp;

}

}

Console.Write("{0} ", patientArray[write]);

}

}

static void selectionSort(List<patient> patientInfo)

{ }

static void insertionSort(List<patient> patientInfo)

{ }

static void stream(List<patient> patientInfo)

{

string[] fields;

const Char DELIM = ',';

string inputline, surname, initial;

int patientNo;

double balance;

StreamReader SR = new StreamReader("patientinfo.dat");

inputline = SR.ReadLine();

while (inputline != null)

{

fields = inputline.Split(separator: DELIM);

patientNo = Convert.ToInt32(fields[0]);

surname = fields[1];

initial = fields[2];

balance = Convert.ToDouble(fields[3]);

patient patient = new patient(patientNo, surname, initial, balance);

patientInfo.Add(patient);

inputline = SR.ReadLine();

}

SR.Close();

}

static void Mainmenu()

{

Console.WriteLine("Choose menu Item :");

Console.WriteLine("1. Add patient");

Console.WriteLine("2. view patients");

Console.WriteLine("3. view number of patients");

Console.WriteLine("4. sort patients by patient number");

Console.WriteLine("5. sort patients by surname");

Console.WriteLine("6. sort patients by patient bill (highest to lowest");

Console.WriteLine("-1 to quit app");

}

}