**Object-Oriented Application Development**

**Practical 11**

**Part A**

1. Write a program to allow a user to enter some numbers one by one and write them to a text file named ‘numbers.txt’. The numbers can each be placed on separate lines. Use Notepad to view the contents of the output file. Include appropriate exception-handling.

public class Test

{

static void Main()

{

try

{

StreamWriter reader = new StreamWriter("numbers.txt");

Console.WriteLine("Enter max");

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

for (int i = 1; i <= max; i++)

{

Console.WriteLine("Enter some number");

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

reader.WriteLine(input);

}

reader.Close();

}

catch (IOException exc)

{

Console.WriteLine("File error: "

+ exc.Message);

}

}

}

1. Modify the program in Question 1 to check first if the file exists and allow the user to choose whether to over-write the numbers or to append the input numbers to the end of the file. [*Note*: the difference is only in the way the file is opened].
2. Write a program to read the values from the text file created in Question 2 and display on the screen the average of the values, formatted to two decimal places. Include appropriate exception-handling. Terminate the application if the file does not exist.

public class Test

{

static void Main()

{

if (File.Exists("numbers.txt"))

{

try

{

double avg;

int sum = 0;

StreamWriter writer = new StreamWriter("numbers.txt");

Console.WriteLine("Enter max");

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

for (int i = 1; i <= max; i++)

{

Console.WriteLine("Enter some number");

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

sum += input;

writer.WriteLine(input);

}

avg = sum / max;

writer.WriteLine(sum);

writer.WriteLine(avg);

writer.Close();

}

catch (IOException exc)

{

Console.WriteLine("File error: "

+ exc.Message);

}

}

else

{

Console.WriteLine("File does not exist");

}

}

}

1. Modify the program in Question 3 to check first if the file exists.

1. Write a Console-based application to create Person objects (representing persons with name and IC number with data entered by the user) and store them in an array. After all the objects are stored, the application writes the data from the array to a text file.
2. Write a Console-based application to read the data from the file created in Question 5, create the Person objects, and store them in an array. The program then allows the user to search for a particular Person object from the array by entering the IC number.
3. Write a Windows-based (graphical user) application with 2 textboxes and a button to allow a user to enter a name and phone number. When the user clicks on the button, the application writes the data in a text file. The phone number must be written with an asterisk in front and at the end. Each data item can be written on a different line. Allow the user to save the data for more than 1 person. Include appropriate exception-handling.
4. Write a Windows-based application with 2 textboxes and a button to allow a user to read the data from the file created in Question 1 and display the name and phone number in the text boxes one by one until the end of the file. Note: remove the asterisks from the phone number when displaying. Include appropriate exception-handling. Terminate the application if the file does not exist.
5. Type, using Notepad, the following content, which represents student names and three scores per line, in a text file (‘Scores.txt’): (Note: change the Font type in Notepad to ‘Courier New’.)

Jeremy Chan\*88\*100\*66\*

Devi Nathan\*75\*65\*95\*

Harry Goh\*45\*9\*48\*

Julia Ahmad\*87\*88\*67\*

Kenny Tan\*60\*88\*71\*

Micheal Ching\*98\*87\*92\*

Write a Console-based application, with appropriate exception handling, that reads the data from the text file, calculates the average of the scores per student, and writes the names and averages to a different text file (‘Average.txt’) in the following format, (where *nnn* represents any number from 0 to 100):

Name Average

-----------------------

Jeremy Chan *nnn*

Devi Nathan *nnn*

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