**DT228 OOP Lab Test**

**Rules of the Test!**

* **This is an open book test. You can use any books including ebooks and webcourses.**
* **General Internet usage is not allowed. Any use of Google, Facebook chat messaging etc will result of a mark of 0.**
* **You must submit a ZIP file of your Visual Studio solution folder through webcourses ONLY at the end of the test.**
* **This is an individual test. No talking or collaboration permitted.**
* **You should appropriately comment your code.**

**Setup**

The file expenses.txt contains a TAB separated list of TD’s expenses for 2012 in the following format:

Name Political\_Party Constituency Amount\_Returned Amount\_Claimed

Create a new C# Console Application and place this file into the bin/Debug folder of your Visual Studio Solution. For example, if you named your solution Expenses, the file would go into the folder:

Expenses\Expenses\bin\Debug

**Part 1**

Create a new **class** to encapsulate the data from a **single row** of the file with appropriate fields, properties, a default constructor and a ToString method. Add an additional read only property for Total. Total is calculated as the Claimed amount minus the returned Amount.

**Part 2**

In your Program class, declare a static array of type the Expense class you created in Part 1. Write a static method:

static void LoadExpenses(string filename)

This method should load the file and parse it into the array of Expense objects you declared. Note, you can load a file into a string array by calling:

string[] lines = System.IO.File.ReadAllLines(filename);

**But make sure the file is in the right place otherwise your program will throw an error saying it cant find the file.**

**Part 3**

Write a static method in your program class:

static void PrintExpenses(string party)

This method should print the expenses claimed by a TD’s of the political party passed as the parameter. This method should also print the total amount claimed by the party and the TD from the party who claimed the minimum amount and the maximum amount. For example, calling the method as follows:

PrintExpenses(“LAB”);

Would result in the following being printed:

Broughan, Tommy Lab Dublin North-East 0 22821.43 22821.43

Burton, Joan Lab Dublin West 0 10684.33 10684.33

Byrne, Eric Lab Dublin South-Central 0 22821.43 22821.43

Conaghan, Michael Lab Dublin South-Central 0 22821.43 22821.43

Conway, Ciara Lab Waterford 7027.39 50225.8 43198.41

Costello, Joe Lab Dublin Central 0 31865.51 31865.51  
…  
…  
…  
Total claimed for party: Lab was 1044096

Minimum claimed from party: Lab was 0 by Maloney, Eamonn

Maximum claimed from party: Lab was 51082.71 by Lynch, Ciaran

I have left out some lines in the above.

If the party is not found in the expenses array, you should print:

Party: XXX not found

**Part 4**

In your Main method, write code to first prompt the user for a party and receive the user’s input. When the user types a party, you should print that party’s expenses by calling the method PrintExpenses that you created in Part 3. When the user types quit, the program should quit. Below gives a typical interaction:

Enter the name of a party or "quit" to quit

PBP

Boyd Barrett, Richard PBP Dun Laoghaire 0 31865.51 31865.51

Collins, Joan PBP Dublin South-Central 1811.05 31865.51 30054.46

Total claimed for party: PBP was 61919.97

Minimum claimed from party: PBP was 30054.46 by Collins, Joan

Maximum claimed from party: PBP was 31865.51 by Boyd Barrett, Richard

Enter the name of a party or "quit" to quit

CC

Barrett, Sean CC Dun Laoghaire 0 13111.75 13111.75

Total claimed for party: CC was 13111.75

Minimum claimed from party: CC was 13111.75 by Barrett, Sean

Maximum claimed from party: CC was 13111.75 by Barrett, Sean

Enter the name of a party or "quit" to quit

quit

Goodbye