**Institute of Technology Tralee**

**BSc. in Computing with Specialism (Group 5) - Year 1**

**Continuous Assessment #2**

**Date: 11/12/14**

**Time: 10a.m. – 12p.m.**

**Introduction to Programming**

**Instructions:** Attempt the following question. You should use the JCreator IDE for coding. When you are finished you must print out your code for correction.

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**Q1.**

A Java program is required that will prompt for and read in exactly 8 student t-numbers, using a **do-while** loop.

In order to be considered valid, each t-number must

* Contain exactly 9 characters
* Begin with the letter ‘t’ (uppercase or lowercase)
* Only contain digits after the first character (**hint**: use a while loop here to count the number of digits, there should be exactly 8 after the first character)

Your program must validate each t-number entered fully, using the criteria above, in the order indicated. If the validation process finds the t-number to be invalid, then the first criterion on which it failed should be displayed to the screen. If the t-number turns out to be valid, the program should simply issue a message in this regard.

Once the main loop has completed, the program should then display the following

* The total number of t-numbers entered that were valid
* The number of t-numbers which were invalid because they contained an invalid number of characters
* The list of valid t-numbers entered

Using the test values as indicated in the screen shot below, the program should give you **exactly** the following output when it runs, including any banners, blank lines, tabs etc.

Also note that there will be a few marks awarded for having a **single-line comment** and **a meaningful multi-line comment at the top of the program**.

**Sample Screen Shot**

**A series of invalid t-numbers are entered, with the appropriate error message issued each time. The last three entered are valid. Finally some statistics are displayed about the t-numbers.**

