**CPIT Department of Computing**

**Graduate Diploma in Information and Communication Technologies**

**Bachelor of Information and Communication Technologies**

**Diploma in Information and Communications Technology**

**Diploma in Information Technology**

**BCSE101 – Software Engineering 1A**

**JavaScript Practical Test**

**Monday 22 June 2015**

**9:00-11:10**

**Student Name:**

**CPIT ID Number:**

**NOTE: For the purposes of this test you may use textbooks, your notes and any electronic files that are in your area of the network.**

This test is worth 25% of the overall mark for BCSE101

This test has 5 pages including the cover sheet

***Note that for some questions it may be necessary to write an extra method over and above the method that is asked for.***

Copy the test’s zip file from Moodle onto your local drive. Unzip all directories (and all sub-directories) and all files.

1. Four classes have been created in this project. Draw a class diagram in the space below showing the classes (including their attributes and methods) and relationships.

(4 marks)

1. In the setup method of the Controller class write code that to create the following four Monarchs using the addMonarch method that exists in the World class

**ID Ruler Married To**

1 Duke of Tosa

2 Queen of Zo King of Zot

3 Prince of Tellah Princess of Zot

4 King of Eithennis Queen of Emer

***NOTE: the defect in this data is deliberate – fix it!***

(3 marks)

1. Write a getMonarchs method for World class that displays only the ID, Ruler and likelihoodOfSurvival of all the Monarchs.

***(Note that the other data for them should not be displayed).***

The required output is:

2 Queen of Zot 100  
3 Prince of Tellah 100  
4 King of Eithennis 100  
1 Duke of Tosa 86

***NOTE: Punctuation and spacing and ORDER must also be as shown above.***

***Hints:***

***You will need to use \n and space in your methods.***

***You will need to call the .sort method.***

(3 marks)

1. Write an addFiefdom method for Monarch class that can be used to create a new Fiefdom.

Note: You will need to add some code in the Fiefdom class as well.

(3 marks)

1. In the setup method of the Controller class write code to create the following Fiefdoms, using the addFiefdom method that has been created previously.

***NOTE: You will have to use the findMonarch method in the World class***

**ID Lord Properties YearlyRevenue doesTax MonarchID**

**1 Princess of Zot 3000 1000000 false 1**

**1 Princess of Zot 2000 1050000 false 2**

**1 Princess of Zot 750 500000 false 3**

**1 Princess of Zot 3400 2250000 false 4**

(4 marks)

1. Write a **Boolean** get method named hasFiefdom for the Monarch class that returns true if the Monarch has fiefdoms and false otherwise.

***HINT: Check the value returned by the .length method of the array.***

(2 marks)

1. Write a getMonarchsWithFiefdoms method for the World class that first lists for each Monarch who has fiefdoms the PART’s ID, Ruler and likelihoodOfSurvival and then lists underneath the details of the Fiefdom as shown below. This method must call the method created in the previous question.

The required output is:

*Fiefdoms*

1 Princess of Zot

***NOTE: The order shown above is the required order. Punctuation and spacing must also be as shown above.***

***Hint: You WILL need to use \t, \n and space in your method.***

(6 marks)

**HOW TO SUBMIT YOUR COMPLETED TEST**

When you have finished the test, zip and send. /**src** folder to the digital drop box on Moodle.

You must check with one of the tutors that this has been done properly before you leave the room.

If your work has not been loaded into digital drop box while you are in the room your test will not be marked.