**Ara 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**

**Student Name:**

**Ara 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 has 4 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 zip file containing the test directory (and all sub-directories) from Moodle onto your local drive. Unzip all directories and 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.

(1 mark)

1. In the setup method of the Controller class write code that to create the following four BranchOwners using the addBranchOwner method that exists in the ChocolateFactory class

**ID FIRST NAME LAST NAME GENDER**

**01 Rachel Choi F**

**03 Donald Rai M**

**02 Seunghyun Hunter M**

**04 Aishwarya Trump F**

(2 marks)

1. Write a getBranchOwners method for ChocolateFactory class that displays some of the details of the BranchOwners.

The required output is:

01. Rachel Choi

02. Seunghyun Hunter

03. Donald Rai

04. Aishwarya Trump

***Hints:***

* ***use \n in your methods.***
* ***call the .sortBranchOwners method in ChocolateFactory.***

(3 marks)

1. Write an addBranch method for the BranchOwner class that can be used to create a new Branch.

NB. You will need to add some code in the Branch class as well.

(4 marks)

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

***HINT: use the findBranchOwner method in the ChocolateFactory class***

**OWNER ID NAME LOCATION PURCHASE DATE**

**01 401 Mike's Chocolate Shop Krakatoa Island 27-2-2011**

**01 402 Cacao Bean Mt. Everest 12-8-2015**

**03 389 The Hot Chocolate Shoppe Sahara Desert 31-3-2013**

**02 113 Chocolate Therapy Amazon Rainforest 24-10-2004**

**04 114 Arriba Chocolate Siberia 4-3-2009**

**04 121 The Cacao Walk Gobi Desert 1-6-2014**

(5 marks)

1. Write a **Boolean** get method named hasTwoBranches for the BranchOwner class that returns true if the number of branches that a BranchOwner has is two and false otherwise.

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

(2 marks)

1. Write a getThoseWithTwoBranchess method for the ChocolateFactory class that first lists the BranchOwner details and then lists underneath the details of the Branches as shown below. This method must call the method created in the previous question.

The required output is:

01. Rachel Choi

401 Mike's Chocolate Shop, Krakatoa Island.

402 Cacao Bean, Mt. Everest.

04. Aishwarya Trump

114 Arriba Chocolate, Siberia.

121 The Cacao Walk, Gobi Desert.

***Hints: use \n and \t at beginning and 2 spaces after the “,”***

(8 marks)

**HOW TO SUBMIT YOUR COMPLETED TEST**

* When you have finished the test put all the /src directory files in 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.