**Ara Department of Computing**

**Graduate Diploma in Information and Communication Technologies**

**Bachelor of Information and Communication Technologies**

**BCDE101 – Introduction to Programming**

**JavaScript Practical Test**

**Student Name:**

**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 BCDE101

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 zip file contained the test files from Moodle onto your local drive. Unzip all directories and files.

**JAVASCRIPT**

1. Draw a class diagram showing the classes in the \src directory (including their attributes and methods) and relationships.

(1 mark)

**JAVASCRIPT**

1. In the setup method of the Controller class write code that to create the following four donors using the addDonor()that exists in the BloodBank class.

|  |  |  |  |
| --- | --- | --- | --- |
| **NationalID** | **First Name** | **Last Name** | **Gender** |
| 9800100 | Jonathan | Watts | M |
| 4023500 | Sandy | Moore | F |
| 7906553 | John | Burk | M |
| 5000990 | Daniel | McDonald | M |
| 6896701 | Cathy | Watson | F |

(2 marks)

**JAVASCRIPT**

1. Write a displayDonors( ) for BloodBank class that displays only the lastName, firstName and gender of all the Donors.

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

The required output is:

Watts, Jonathan [M]

Moore, Sandy [F]

Burk, John [M]

McDonald, Daniel [M]

Waterson, Cathy [F]

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

***Hint:***

***You WILL need to use \n in your methods.***

***You WILL need to call the .sortDonors method in Bloodbank.***

(3 marks)

**PYTHON**

1. Write an add\_activity method for the Member class that can be used to create a new activity.

***NOTE: You will need to add some code in the Activity class as well.***

(4 marks)

**PYTHON**

1. In the setup method of the controller.py class write code to create the following Activities, using the add\_activity method that has been created previously.

***NOTE: You will have to use the*** find\_member ***method in the club class***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***member\_id*** | **event** | **place** | **Start\_date** | **cost** |
| *M01* | Autumn Festival | Arrowtown | 1/1/2018 | $0.00 |
| *M05* | Joyride Carnival | Auckland | 5/2/2019 | $300.00 |
| *M05* | Easter High Tea | Wellington | 10/12/2018 | $150.00 |
| *M05* | Festival of Colour | Hamilton | 7/11/2018 | $0.00 |
| *M02* | Wine and Food Festival | Napier | 10/02/2020 | $350.00 |
| *M04* | Music in Park | Hamilton | 08/12/2018 | $0.00 |

(5 marks)

**PYTHON**

1. Write a **Boolean** get method named has\_many\_activities method for the Member class that returns true if the number of activities that member plays is more than one and false otherwise.

***NOTE: Check the value returned by the length method of all\_my\_activities Array.***

(2 marks)

**JAVASCRIPT**

1. Write a displayPositiveDonations method for the BloodBank class that first lists for each Donor who has positive blood group, the Donor’s firstName, lastName and gender and then lists underneath the details of the Donation as shown below.

This method must call the hasPositiveBloodGroup() method in the Donor class.

The required output is:

Moore, Sandy [F]

Has blood group <AB+> donated on 12/1/2018 at Christchurch

Watson, Cathy [F]

Has blood group <O+> donated on 7/15/2019 at Auckland

Watts, Jonathan [M]

Has blood group <AB+> donated on 11/9/2017 at Nelson

Has blood group <AB+> donated on 10/5/2019 at Otago

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

***Hints:***

*You will have to write code in Donation and Donor as well.*

*Use '\n'*

*Use '\t'*

*Use the date method .toLocaleDateString()*

*Sort the donors*

(8 marks)

**HOW TO SUBMIT YOUR COMPLETED TEST**

* When you have finished the test, copy the

PYTHON

**controller.py,**

**club.py,**

**member.py** and

**activity.py** files

and the JAVASCRIPT

**Controller.js**,

**BloodBank.js**,

**Donor.js** and

**Doation.js** files

to the digital drop box on Moodle.

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