**CM1100 Javascript Assessment 2**

**Friday 21st November 2019: 12:00 – 14:00**

The mark for the assessment will be converted into a grade using the following grading criteria.

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| **Mark** | **Grade** |
| 70% and above | A |
| 60% - 69% | B |
| 50% - 59% | C |
| 40% - 49% | D |
| 35% - 39% | E |
| Below 35% | F |

**Q1. THE HORROR! THE HORROR! (70 marks)**



**I'M A TALENTLESS**

**D-LIST CELEBRITY…**

**RESCUE MY CAREER!**

*"Everyone gets everything he wants. I wanted a mission, and for my sins, they gave me one. Brought it up to me like room service. It was a real choice mission, and when it was over, I never wanted another."*

IT Support for "I'm a Talentless D-List Celebrity"

Deep in the Australian Jungle, unscrupulous former Kangaroo traders, Anthony Kurtz and Declan Kilgore, have used the power of TV to dazzle a group of desperate minor celebrities into joining their cult-like competition, dedicated to mind-numbing chatter and the consumption of oversized insects. This competition is then broadcast to a mesmerised audience throughout the world. In order to generate TV ratings, the individuals are subjected to a series of brutal, (mostly) insect-based tortures which determine their position in the competition and ultimately, which one of them survives. After each activity, one of the group members is eliminated - with extreme prejudice - from of the competition.

These unfortunate individuals, who had previously competed in the hit TV show "Strictly Dances with Wolves" during the infamous KenGate Scandal, are all too familiar with death, destruction and the desire to go to any length to avoid doing a day's work. But this is something much, much worse!

You have been called in as a consultant in order to test the computer system that controls the camp management and security. You should write some Javascript code which accomplishes the following tasks:

1. Create an array of names of the members of the group: "Flash", "Anne", "Chelsee",

"Corrie", "Des" and "Zed" (in that order).

(5 marks)

Marks for:

* Declaration, Assignment, Array syntax, Populating array, Test /1 each

1. The first activity in the show is requires the individuals to consume a number of beetles to try to avoid elimination (and so escape appearing as an item on the camp breakfast menu for the next day). You are required to test the cutting-edge beetle-logging software that has been installed to keep track of the number of insects eaten.

For each group member, you should generate and store a random integer in the range 0 to 1000, corresponding to the number of beetles consumed in one hour. The group member with the lowest score is eliminated. You should display a message stating which person has been eliminated and which five contestants still remain.

(10 marks)

Marks for

* Creating array of beetle numbers /3
* Finding minimum element of array /2
* Finding index of minimum element of array /1
* Removing associated contestant /3
* Output /1

1. To enhance the alienation process, upon entering the jungle, each member of the group is assigned a new name based on their Spirit Animal and an adjective that may (possibly) describe that creature.

The list of possible animals are:

* "wombat", "spider", "platypus", "treefrog", "cockroach", and "koala".

The list of adjectives are:

* "slimy", "venomous", "scaly", "malodorous", "screechy", "snappy" and "creepy".

You should write some code which will generate a message giving the name of each contestant together with the adjective and spirit animal. This should have the form:

<name> is a <adjective> <animal>.

For example, one message might read "Des is a venomous wombat".

Note that these combinations do not have to be unique (e.g. "creepy spider" could be assigned to more than one person).

The number of characters in the message (including spaces) should be found and the person with the lowest number should be eliminated from the competition. If there is a tie in the smallest number of letters, the first person found with that number is eliminated.

Display the name of the person eliminated and the four people left.

(15 marks)

Marks for:

* Setting up arrays /4
* Creating responses /4
* Finding length of responses /2
* Finding minimum length /1
* Eliminating person with minimum length /3
* Output /1

1. Each remaining contestant is fitted with a noise sensor and sent to lie in a cage full of scorpions for an hour. Each sensor displays the loudness of their screams on a scale of 1 to 20. The person with the largest loudness score is then fed to the attack kangaroos that patrol the compound. If there is a tie, the last person found with that score is eliminated.

You should test the control software for sensor by simulating a loudness score for each person. This is done by randomly generating a value in the correct range for each remaining contestant and eliminating the person with the highest score.

You should display a suitable message and the remaining list of three contestants.

(5 marks)

Marks for:

* Setting up array /1
* Populating array /1
* Finding minimum /1
* Removing associated contestant /1
* Output /1

1. The next activity is to gather bananas while trying to avoid a swarm of killer bees. Each person will have four attempts to collect them and can carry, at most, six bananas on each attempt. The information on the number of bananas collected by each contestant in each round is to be held in a table.

You are required to test the software by generating appropriate entries in the table and performing the relevant calculations. The results should be displayed on the screen.

The person eliminated in this round is the one with the lowest number of bananas

State the person who is eliminated and the two remaining contestants.

(15 marks)

Marks for:

* Setting up array /3
* Populating array of for each contestant /4
* Form row-sums of the banana array /3
* Finding minimum /2
* Remove associated contestant /2
* Output /1

1. The final challenge to determine who is named Ruler of the Jungle is for the two remaining contestants to challenge each other to a contest of skill and intelligence, known as "rolling dice". Each of the finalists rolls a normal six-sided die and the contestant with the highest score wins. If there is a tie, the process is repeated until a clear winner emerges.

Test this procedure by simulating this contest and output the result, specifying who is to be crowned "Ruler of the Jungle".

(10 marks)

Marks for:

* Set up variables for contest /2
* Generate random scores /2
* Test for winner /2
* Redo if tie /2
* Output result /2

In addition to this: there are:

10 marks for Coding Style.

Marks for:

* Comments /2
* Coding style, e.g. declaration, semi-colons, etc /2
* Sensible variable names /2
* Sensible function names /2
* Appropriate Indentation /2

Total 70 marks