ACS Applied Computer Science

THE UNIVERSITY OF WINNIPEG

Applied Computer Science

ACS-2909-050
Internet Programming

Fall 2018

Assignment 1

Due Date: Oct 3rd, 2018 11:59 pm **Total Marks: 26**

Motification

The goal of this assignment is to give the student an exposure to the Javascript language constructs.

1) (10 marks) Create a paragraph containing random data (you can use http://lorem-ipsum.perbang.dk/). Create four buttons with the labels of "Toggle Bold", "Toggle Position", "Toggle Colour" and "Toggle Size". Add click handlers on each to modify the look of the paragraph.
   - Each button should turn on or off the changes to the paragraph on each click of the button
     - ⇒ Eg. If you click the "Toggle Bold" the first time, the paragraph text should become bolded. On a second click, the paragraph text should change back to normal
   - Toggle Bold will make text bold
   - Toggle Position will change the location of the paragraph to the middle of the page

Assignment 1 (cont'd)

- Toggle Colour will change the text and background colour (text should be #c5c5c5 and background should be #33ff3f)
- Toggle Size will double the font size

2) (8 marks) We want to use Javascript Classes to create the same functionality that Question 1 had. Create a new Class called "ParagraphChanger" where the constructor accepts the Paragraph element. Inside of the constructor, create the four buttons (Toggle Bold, Position, Colour and Size) using Javascript (**document.createElement**) and add a click event handler on each. The click Handler will do the same functionality as in Question 1 (eg. Toggling whether or not the paragraph is bolded) and should be part of the Class itself.

3) (8 marks) Create an array of 1000 objects. These objects should have two properties (*name* and *value*). The *name* property should be your name and a counter append, and the value should be the counter itself.

E.g. My name is Dan, so, I should have an array of the form:

```
[
    {name:"Dan0", value:0},
    {name: "Dan1", value:1}
    …
    {name: "Dan999", value:999}
]
```

A) Create a function that will convert every object so that the name is all upper cased, and the values are the original * 5 and store into the *upper* variable

B) Create a function that will convert every object so that the name is all lower cased and the values are the original * 3 and store into the *lower* variable

C) Create a function that will take each object in *upper* and find all objects in *lower* that evenly divide into it.

E.g. If we have an *upper* object with a value of "15", the *lower* objects with values of "3" and "15" will divide evenly into it

Assignment 1 (cont'd)

D) The result of (C) should end up with an array of *upper* numbers, and in each Object, there should be a key of "found", and it should contain an array of each found *lower* object (empty array if none found):

The Javascript result could look something like:

```
let myArray = [{
    name: "dan3", value:"15",found: [
        {name: "dan1", value: 3},
        {name: "dan5",value:15}
    ]
  },{
    name: "dan3", value:"20", found: []
  }]
```

And use **`console.log(result)`** to output it

Hand In Instructions:

Zip all files into a single archive named *StudentNumber_Assignment1.zip*. Submit the zip file to Nicole Van Hove at *vanhove-n@webmail.uwinnipeg.ca*.