**CSE 3302: Programming Languages**

**Fall 2017**

**Programming Assignment 01 – Functional Programming using JavaScript**

**Due on 10/05/2017 [ before 11:59 pm]**

**INSTRUCTIONS**

1. **Do NOT plagiarize.**
2. **No group work. All work should be your own.**
3. **Do not discuss your work with other students in the class.**
4. **You CANNOT borrow code from online sources.**
5. **Turn in your program using Blackboard. Do not email your program to the TA or the instructor.**
6. **Name your document as netid.js where netid is your UTA netid. If you do not know your netid, check what it is using NetID Self Service. Your 1000 number is NOT your netid.**
7. **All code should be your own. You may not copy code from the slides, book, others, or the internet unless specified. You are not allowed to use in-built functions other than the ones taught in class for functional programming.**
8. **Display your results for each question in a new line.**
9. **Write an explanation of your code for each line using comments. If the explanation is not clear, you will NOT receive full credit.**
10. **The code should have you name, 1000 number, and the date you turn it in as the first 3 lines in order.**
11. **Link used in class is below. This is the link to the first part. There are 6 parts and you can get to other parts from this link: -**

**https://medium.com/@cscalfani/so-you-want-to-be-a-functional-programmer-part-1-1f15e387e536**

1. (5 points) Start with an array called **table**. The array should have numbers between 1 and 10.
2. (30 points) Use **table** to create the following: -
   1. Set of multiples of 5 between 1 and 51. Name it **fiveTable**
   2. Set of multiples of 10 between 1 and 101. Name it **tenTable**
   3. Set of squares of numbers in table. Name it **squaresTable**
3. (10 points) Get the odd multiples of 5 between 1 and 100. 5, 15, …
4. (20 points) Get the sum of even multiples of 7 between 1 and 100. 14 + 28+…
5. (15 points) Use currying to rewrite the function below: -

function cylinder\_volume(r, h){

var volume = 0.0;

volume = 3.14 \* r \* r \* h;

return volume;

}

Use r = 5 and h = 10 to call your curried function.

1. (15 points) Use the following code to take advantage of closure to wrap content with HTML tags, specifically show an HTML table consisting of a table row that has at least one table cell/element. You can use the console to output your results.

makeTag = function(beginTag, endTag){

return function(textcontent){

return beginTag +textcontent +endTag;

}

}

1. (5 points) Following instructions
2. (Extra credit) Do the generic version of questions 3 and 4 – first odd or even and then the number whose multiples (in range 1 to 100) you want.