**Group Activity 9: CS 3060**

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Points: 10

**Task 1**: (2 points) Run the following two snippets of code. Are the output same? Add your answer/reasoning in README file.

*Style 1 : map (\x -> x \* x) [4, 5, 6, 7]* -- map is applying an anonymous (*square*) function on the list

*Style 2 :*

*squareAll list = map square list* -- here “where” keyword is used to define *square* function.

*where square x = x \* x*

*squareAll [4, 5, 6, 7]*

**Task 2**: (4 points) Consider the following Haskell code. Add your answer in README file.

myFunc x = (length x > 2) -- what is the type of myFunc?

y = filter myFunc ["abc", "de", "f", "gghher"] -- what is the value of y? why?

z = filter myFunc [[6,7,4,5], [0,1,2]] -- what is the value of z? why?

Now edit *myFunc* code as follows.

myFunc = \x -> (length x > 2) -- right hand side is an anonymous function

Run the following code again, and check whether the value of y and z remain same as before.

y = filter myFunc ["abc", "de", "f", "gghher"]

z = filter myFunc [[6,7,4,5], [0,1,2]]

**Task 3:** (4 points) Use *map* and *foldl* to implement a function f(x) where

f(x) is defined as 1^x + 3^x + 5^x + … + 9^x

Use the following template for the implementation of f(x)

*mylist = [1, 3 .. 9]*

*foo m list = map (\y -> y^m ) list*

*f x = foldl (+) (foo mylist ) -- fill in the blank*

-- What is the input and output type of function *foo*?

-- What is the input and output type of function *f*?

Submission: Submit one copy (per group) on Canvas.