Assignment #7
CS 3060 Programming Languages, Fall 2020
Instructor: S. Roy

Haskell #1

Due Date: Nov 20 @ 11.59 PM.
Total Points: 60 points

Directions: Using the source provided via Gitlab `https://gitlab.com/sanroy/fa20-cs3060-hw/`, complete the assignment below. The process for completing this assignment should be as follows:

1. You already forked the Repository "sanroy/fa20-cs3060-hw" to a repository "yourId/fa20-cs3060-hw" under your username. If not, do it now.
2. Get a copy of hw7 folder in "sanroy/fa20-cs3060-hw" repository as a hw7 folder in your repository "yourId/fa20-cs3060-hw"
3. Complete the assignment, committing changes to git. Each task code should be in a separate file. As an example, task1.hs for Task 1.
4. Push all commits to your Gitlab repository
5. If you have done yet done so, sdd TA (username: prabeshpaudel for CS 3060) as a member of your Gitlab repository

Tasks:

1. **Task #1: (15 points)** Write a Haskell program that prints the string "Hello, you are hard working.". Note that you need to compile your .hs file to create an executable, using commands like, "ghc -o hello prog.hs" and then run the "hello" executable. Submit a screenshot that shows the above activities (which carries 4 points). *Writing README carries 1 point.*

2. **Task #2: (15 points)** Write a function that accepts a list (lst) of integers as the parameter, and filters out a sub-list (of lst) which contains all 5's multiples in lst (if any). As an example, if lst is [34,2,14,25,15,32, 20], then the output is [25,15,20]. *Writing README carries 1 point.*

3. **Task #3: (15 points)** Write a function that accepts a list (lst) of integers as the parameter, and returns x where x is the number of negative integers in the list lst. *Writing README carries 1 point.*

4. **Task #4: (15 points)** Write a Haskell function (named toDigits) that accepts an integer as the parameter, and if the integer is positive then it breaks it into its digits and the output is a list of digits. On the other hand, if the input is not a positive integer, the function returns an empty list. Use the following examples to test your function:

   (a) toDigits 3754 gives output [3,7,5,4] (b) toDigits 0 gives output [] (c) toDigits -17 gives output []

   Writing README carries 2 points.