CS350 2022 Homework 3

Due Date : November 15, 2022

This assignment contains associated files. Kindly unload the zip file on the homepage.

1. Write a Ruby function to reverse a string. Use idiomatic Ruby. [10]

2. Given an array of integers, write a Ruby function to find the longest Arithmetic progression in the list. [10]

3. Implement a method `foldl` for Ruby's arrays.

   This function will take a *block* as an argument. Kindly recall that a block in Ruby is essentially an anonymous λ function.

   The "list" argument in Haskell is the receiver object in Ruby.

   So `foldl f id lst` in Haskell will be equivalent to `array.foldl id <block>`. [15]

4. See the file md.rb for a simple parser for a modification of the markdown format. The file sample.md illustrates the format.

   The class `BasicOutputter` takes a modified markdown file and specifies the functions to be implemented to convert the file into an output format. A very basic, incomplete implementation to output HTML is given as part of the code.

   Implement a class to output LaTeX format for a given modified markdown file. [25]

5. You are given the code for the dungeon game showed in class. To run this code, you have to install gosu : `gem install gosu`. Compile and run the given code.

   Note that in the given hierarchy, the Princess can wield a weapon. Improve the design of the software by creating a superclass for the

Player class which abstracts out only the common characteristics of the Plumber, the Dragon and the Princess. Ensure that your code compiles and runs. [20]

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