Assignment #5
CS 3060 Programming Languages, Fall 2020
Instructor: S. Roy

Scala #1

Due Date: Oct 29 @ 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 hw5 folder in "sanroy/fa20-cs3060-hw" repository as a hw5 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.scala for Task 1.
4. Push all commits to your Gitlab repository
5. If you have done yet done so, add TA (username: prabeshpaudel) as a member of your Gitlab repository

Tasks:

1. **(12 Points) Task #1:** Write a Scala program which asks the user to type 2 lines (e.g., before going to the next line the user will hit the 'Enter' key, etc.) on keyboard, and saves the lines to a file named "myFile.txt".

2. **(12 Points) Task #2:** Write a Scala program which asks the user to type the name of a file. If the file-content (we are not talking about the filename string) contains "Ruby" or "ruby", then print "The file content is not interesting". If the file-content contains "Scala" or "scala", then print "The file content is interesting". Otherwise, print "The file is meaningless".

3. **(12 Points) Task #3:** Write a Scala program which prints the string "The cube of a is b" 50 times while substituting a by numbers from 5 to 54 where b is a^3.

4. **(24 Points) function #4:** Go to `http://www.textfiles.com/stories/` and check that this site [1] hosts multiple stories while each story is in a textfile. Download a textfile of your choice, which has atleast 1000 words, and save the file as `story.txt`. Your program needs to read this file and process it to collect some statistics. In particular, report the total number of words in the story, the number of distinct words, the second-most frequent word and its frequency. Also, find the number of words which start with character *s*. **Hints:** You may use List and Map (or HashMap) data structures as they are available in Scala. You may design a regular expression to define a *word*.

[1] Disclaimer: we did not really check whether this website contains any improper story or language. If you find something improper, please ignore this site and use some other source