

COM401 Software Engineering Lab

Homework-2

(Due Date : November 2, 2014)

1- Write a ruby method for each task written below. (Questions are independent!) (**30 points**)

a) It checks an e-mail address given as a parameter whether it is valid or not

b) It extracts the dates written in Month Day, Year format like January 1, 1923 from a String below:

“*Users of NYTimes.com Passes*: — 1923–1980: Pass users have unlimited access to the New York Times archived articles outside the 1923–1980 date range. Each day of their pass, users may access up to five free articles published between the years 1923 through 1980.

— Pre-1923 and post-1980: Articles published before January 1, 1923 or after December 31, 1980 are free with your Pass and are not limited in any way. ”

c) It checks an ISBN number as given as a parameter whether it is valid or not.

d) It checks Turkish Identity Number as given as a parameter whether it is valid or not.

Note that the ID number is comprised of 11 digits which do not contain personal information. ¹

e) It checks a username given as parameters according to the following rules:

- A password length must be between 6 and 14.
- A password contains any lowercase letter (a-z), uppercase letter (A-Z), number (0-9), an underscore, or a hyphen.

Hint : use Regexes!

2- Design and implement the hierarchy between some logic gates shown in the following. You are supposed to determine the attributes and methods. (**30 points**)

Hint : use inheritance!

¹ http://www.nvi.gov.tr/English/Mernis_EN,Mernis_En.html?pageindex=1

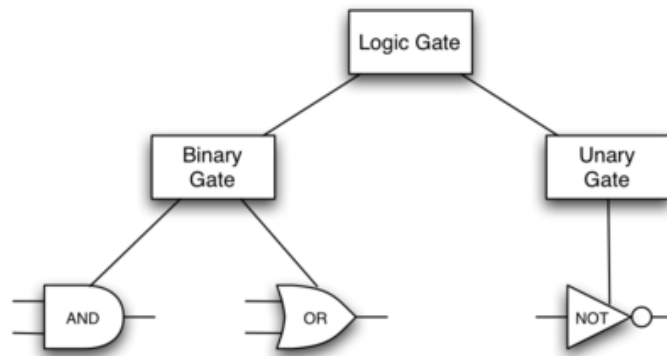


Figure 1: A Sample Hierarchy in Logic Gates²

3- Write a Ruby project that implements the following UML by using OOP concepts. (40 points)

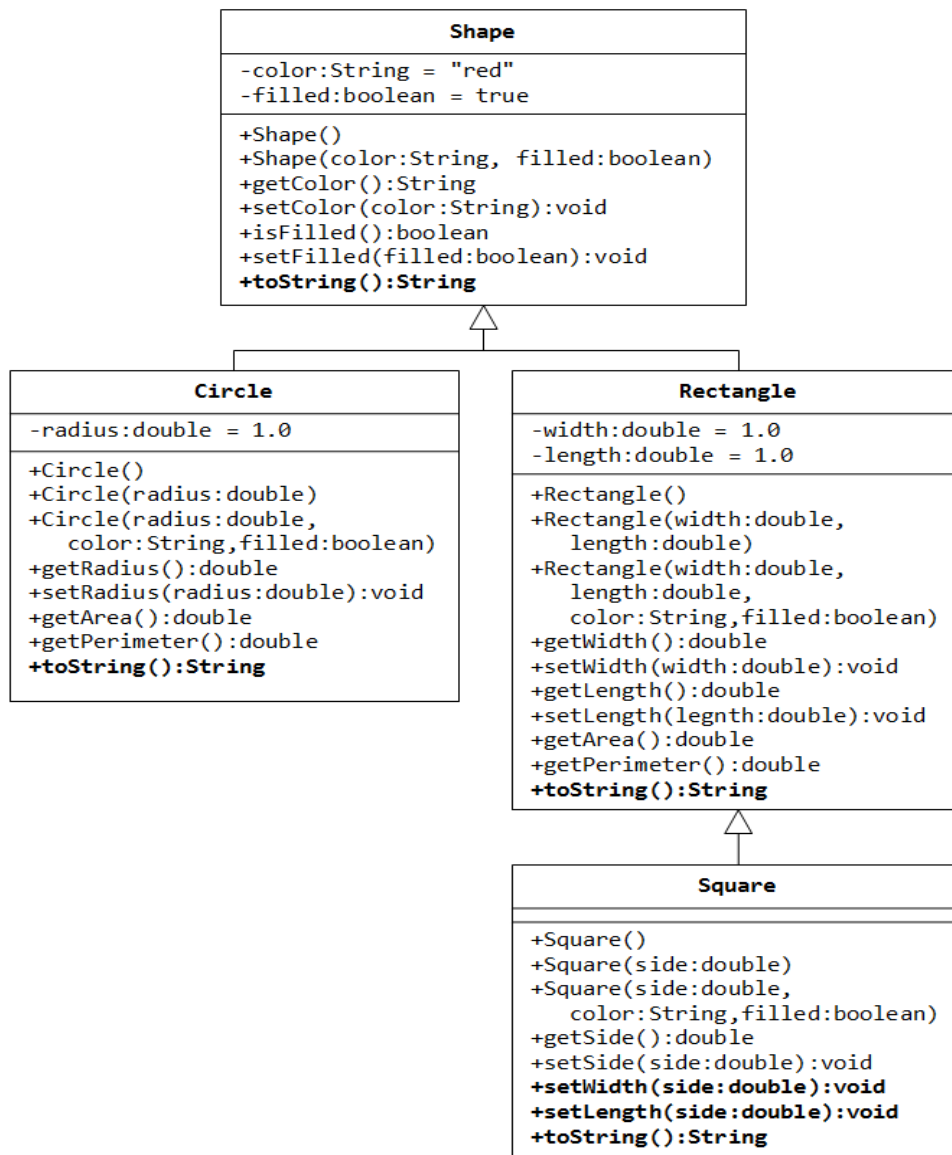


Figure 2: A UML for Shape family³

² http://interactivepython.org/runestone/static/pythonds/_images/gates.png

Honor Code

Read the following Honor Code carefully and if you approve the code, write it under your work. If you do not approve the code it is not guarantee that your work will be evaluated!

"On my honor I have neither given nor received unauthorized information regarding this work, and I am unaware of any violation of the Honor Code by others." ^[4]

³ http://www.ntu.edu.sg/home/ehchua/programming/java/images/ExerciseOOP_ShapeAndSubclasses.png

⁴ Honor Code, Davidson University. Retrieved on September 2014 from <http://www.davidson.edu/about/distinctly-davidson/honor-code>