Assignment 03 — 03.10.2018 – v1.0  
Smalltalk: Understanding Classes and Metaclasses

Please submit this exercise by mail to sma@list.inf.unibe.ch before 10 October 2018, 10:15am.

Exercise 1 – Class identity (1.5 Points)

What are the results (either True or False) of the following expressions? Explain!  
Hint: Please refer to the UML diagram above for the three questions below.

a) Who new amIClassy.


c) Who new classy1 = Who new classy2.

Exercise 2 – Abstract methods (1.5 Points)

Find all abstract methods of the class Collection.

Exercise 3 – Class hierarchy (2 Points)

What is the name of Pharo’s class hierarchy root class? What is its purpose?

Please continue reading on next page.
Exercise 4 – Sub and super classes (3 Points)

How many super classes does the class Collection have? How many direct and indirect subclasses does it have?
Please provide your code and your results.

Hints: Direct subclasses are classes which extend a base class directly (e.g. relation parents to children), whereas indirect subclasses extend a base class not as first-class citizens (e.g. relation grandparents to grandchildren).

Exercise 5 – Object instantiation (2 Points)

A new class instance is being created by sending the message “new” to the respective class.
Where is “new” defined? Describe also Pharo’s method resolution strategy for the “new” message.