

HW1 Exercise 3:

First an object is created in the Stack called “module”, which points to the first element of a table in the Heap. This table contains at index 0 a pointer to the class in the static memory, at index 1 a pointer to the variable name which is the String “Dummy”, and at index 2 a int value of 6 for the cp variable. The pointer at index 0 points to the class Module in static memory which contains at index 0 a pointer to the corresponding vTable in static memory. This table contains two elements. The first element points to the instance method implementation of getName(this) of the Module class, the second element points to the instanced method implementation of register(this, s) of the Module class.

Then a second object is created in the Stack called “oose”, which points to the first element of a table in the Heap. This table contains at index 0 a pointer to the class in the static memory, at index 1 a pointer to the variable name which is “OOSE”, at index 2 a int value of 6 for the cp and at index 3 a int value of 18 for the variable numberOfExercises. The pointer at index 0 points to the class Lecture in static memory which contains at index 0 a pointer to the corresponding vTable in static memory. This table contains at index 0 a pointer to the instance method implementation of the method getName(this) for the class Lecture. By pointing to a different getName(this) implementation of the instance method we “override” the instance method implementation of the Module class which Lecture extends. The index 1 of this table points to the instance method implementation of register(this, s) of the class Module.

