# Java 15 - Checkpoint #2

## Java Advanced

It is possible to implement constructors, setter, getters or any other additional method where it is considered necessary.

1. Declare an interface Washable with the following methods:
   - onWash(): void
   - shouldBeWashed(): boolean
2. Declare a class WashingMachine with the following attributes and methods
   - water: int
   - capacity: int
   - loadedObjects: Set<Washable>
   - load(Washable): void
     - Adds the Washable object to loadedObjects.
   - wash(): Set<Washable>
     - Calls onWash on every item in loadedObjects, then returns this set and allocates a new empty Set, assigning it to the loadedObjects attribute.
3. Declare the following classes representing washables:
   - Shirt
     - Has a "color" string attribute.
     - Has a "cleanliness" integer attribute.
     - shouldBeWashed() returns true if cleanliness < 90.
     - onWash() sets cleanliness += 20.
   - Pants
     - Has a "material" string attribute.
     - Has a "cleanliness" integer attribute.
     - Has an additional "ripped" boolean attribute.
     - shouldBeWashed() returns true if cleanliness < 90 and "ripped" is false.
     - onWash() sets cleanliness += 20. Plus, it has a 50% chance to set ripped = true.
4. Implement a main method where:
   - A WashingMachine object is allocated.
   - A LinkedList of 3 Washable objects is allocated. One of them should be ripped Pants.
   - The list of Washables is printed to screen.
   - All objects of the list are loaded into the WashingMachine through the load(...) method.
   - The wash() method is called and the return value is saved into a variable, which is suddenly printed to screen.
   - A message is printed for every returned Washable that should be washed again.

# SQL

Given the following table:
Cat(

      microchipCode VARCHAR(255) PRIMARY KEY,
      fullName VARCHAR(64),
      nickname VARCHAR(64),
      age INTEGER,
)

Write the following queries:
1. Insert a Cat entry with random values.
2. Report the count of cats that have a certain age, for each age value present in the table.
3. Select all cats older than 10.
4. Select all cats without a nickname.