

Homework#9

Implement Hash Map

Objective:

You will implement a data structure that implements **Map** Abstractions while practicing incremental commits with Git. Each time you complete a step, you must use git add, git commit with appropriate commit messages, and git push to save your work on your local and remote repository.

Steps and Instructions

Inside the **cse274** folder (your local repository) create a new project called **homework9** (**all lowercase, no space, no underscore, no dash**).

Here is a video that shows you how you can create a project on VS Code:

<https://youtu.be/CK3C4KXVXdk>

Completing HashMap class

You are to implement the entire **HashMap.java** file. Please download the **Pair.java**, **Map.java** from canvas, add them under the src folder in your project. Create a new class called **HashMap** which should implement the **Map** ADT.

⇒ Remember: The goal in OOP is to reuse the code that you already have. So if you want to do something and already have a method that does that for you, **USE IT!**

For easier implementation **you are only allowed** to import the following classes and use in your implementation:

1. `import java.util.LinkedList;` // for buckets
2. `import java.util.Collection;` // for values() method
3. `import java.util.ArrayList;` // for values() method
4. `import java.util.Set;` // for keySet() method
5. `import java.util.HashSet;` // for keySet() method
6. `import java.util.Iterator;` // for both remove methods

Test your classes

Download **HashMapTest.java** to test your **HashMap.java** with.

If you don't know how to run a JUnit test in VS Code, here is a video that shows how to do it: <https://youtu.be/PZC5slRkyuc>

Submission on GIT

You will be submitting the '**Clone with HTTPS**' link of the **homework9** folder on canvas. The following files Must be in your GitLab in order to get full points:

1. **HashMap.java**

Rubric

Description	Points
The homework9 folder is added inside the cse274 folder, and all files are directly inside the src folder, with no extra packages	4
The HashMap.java passed all tests of the JUnit tester	14
The file is clean, formatted and follows all the style guides	2
Total	20