Labsheet1: The World-of-Zuul

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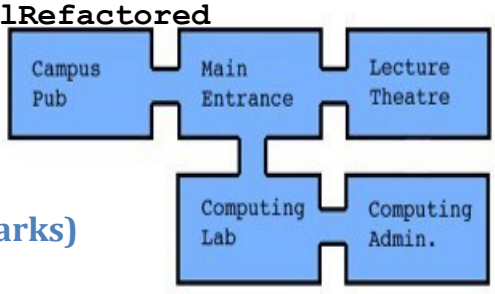
Attempt Task 0A, and 1A in the tutorial and finish Task 2B in the lab. Don't forget to commit your code before you leave the lab! (5 marks)

Task 0A: JUnit test (0 Mark)

Download and import attached code (ExamplesMinimumNumber.java) into your java workspace then,
- Run the code
- Have a look and try to understand it (what it does)?
- Use the Junit attached (MaxNumberTest.java) to test the following two methods in ExamplesMinimumNumber.java:
- *public static int* ***MaxNumber*** *(int num1, int num2)*
- *public static double* ***MaxNumber*** *(double num1, double num2)*

For the rest Tasks please use the code in **`lab1/zuulRefactored`** for the following exercises.



Task 1A: Back Command and JUnit test (2 Marks)

1. Add a *back* Command

- This command does not have a second word. Entering the back command takes the player into the previous room he/she was in.

- You should account for the cases where the user accidentally entered a second word and also if there is no previous room.

2. Test your new command using a pre-defined JUnit test.

- Uncomment the last two lines in **`TestBack.java`** and try to run it.

- For now you have change the visibility of the **`goBack()`** method to **`protected`**. (NB: Later on you'll learn a way to work around this.)

- Describe how the JUnit code works by adding comments above each line of code.

Task 1B: Refactoring Code (3 Marks)

1. Add a Player Class

- Refactor your project to introduce a **`Player`** class. A Player object should store (at least) the current room of the player and the player's name.

- Add the Player to the Game:
  - You need to make sure that the Player is initialized correctly and set into the first Room.
  - Modify the **`printWelcome()`** method that to inform the Player about his current room.
  - Modify the **`goRoom()`** method. Make sure you'll notify the player about his moves.

2. Collecting Items

- Implement an extension that allows a player to pick up a single item. This includes implementing two new commands: **`pickUp`** and **`drop`**.

- You might also want to add more items to different rooms.

- Extends your implementation to allow your player to carry any number of items. Think ahead: how can you make this extension modular? (low coupling).

- Add a restriction that allows the player to carry items only up to a specified maximum weight.

- Implement an *items* command that prints out all items currently carried and their total weight.

3. Write your own JUnit test

- Create a new JUnit test "TestPerson.java" in Eclipse (File -> New -> Junit -> Test Case), or (File -> New -> other -> Java ->Junit ->TestCase).

- Create tests for your **`pickUp()`** and **`drop()`** methods.

References:

- Lars Vogel. JUnit - Tutorial. Version 2.3, 2012. http://www.vogella.com/articles/JUnit/article.html
- https://www.youtube.com/watch?v=v2F49zLLj-8
- https://github.com/kentbeck/junit/wiki