HOMEWORK WEEK 4
(handout for students)

TASK 1 (Git and GitHub)

Question 1

Complete definitions for key Git & GitHub terminology

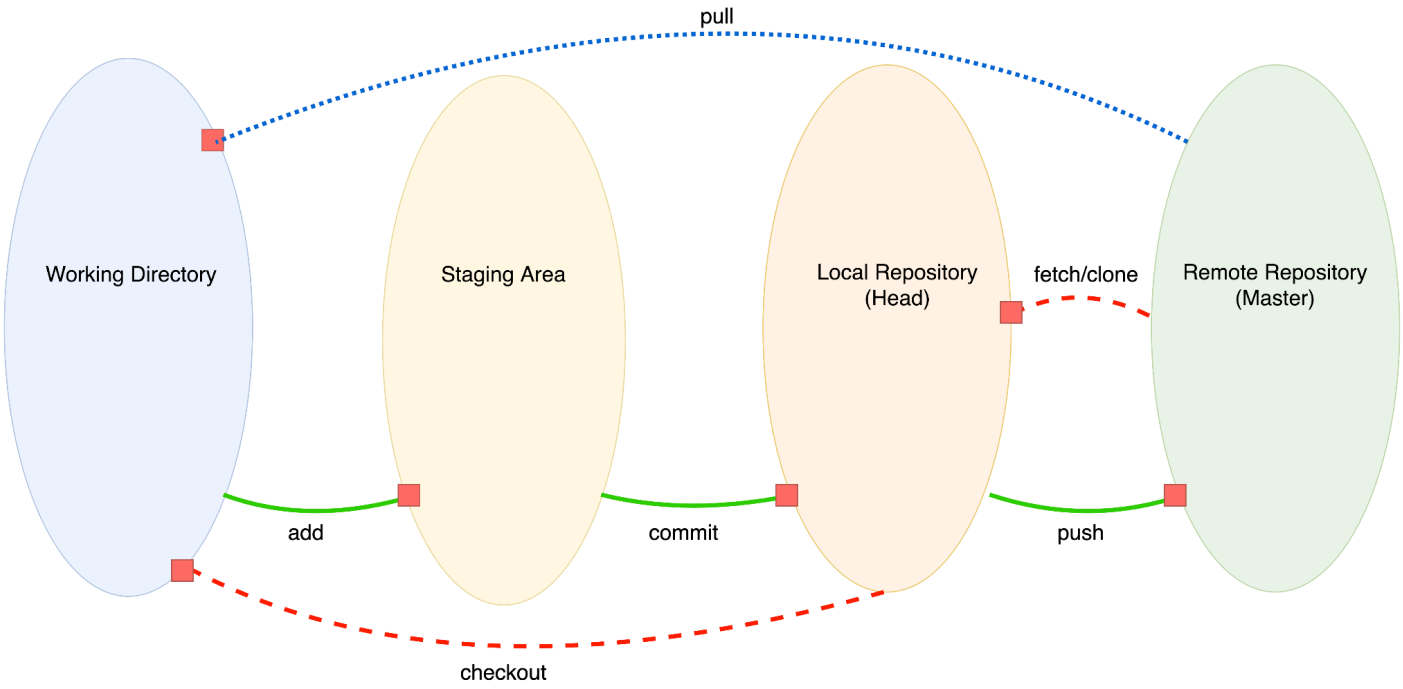

Illustration made from draw.io

GIT WORKFLOW FUNDAMENTALS

- **Working Directory -** i.e. Working Folder, is a specific file location where we stores and processes files that are being worked on.
- **Staging Area -** an environment for newly created/added files.
- **Local Repo (head) -** local computer repository
- **Remote repo (master) -** GitHub server repository

WORKING DIRECTORY STATES

- **Staged -** this is the state where the file has been added
- **Modified -** this is the state where the file has been updated
- **Committed -** this is the state where the file has been committed

GIT COMMANDS:

- **Git add -** this is a command to add the file in Staging Area
- **Git commit -** a command for Git to tack history record of the file in the repository
- **Git push -** a command to send the committed file to the Remote Repository
- **Git fetch -** a command to fetch the file from Remote Repository to Local Repository
- **Git merge -** a command to update/modify a file in a Branch and moving to the Master
- **Git pull -** a command to pull the file from Remote Repository to Working Directory

TASK 2 (Exception Handling)

Question 1

Simple ATM program

Using exception handling code blocks such as try/ except / else / finally, write a program that simulates an ATM machine to withdraw money.

(NB: the more code blocks the better, but try to use at least two key words e.g. try/except)

Tasks:

1. Prompt user for a pin code

2. If the pin code is correct then proceed to the next step, otherwise ask a user to type in a password again. You can give a user a maximum of 3 attempts and then exit a program.

3. Set account balance to 100.

4. Now we need to simulate cash withdrawal

5. Accept the withdrawal amount

6. Subtract the amount from the account balance and display the remaining balance (NOTE! The balance cannot be negative!)

7. However, when a user asks to 'withdraw' more money than they have on their account, then you need to raise an error an exit the program.

My Answer here: https://github.com/diwalia/my-repo-diane/blob/week4/hw4/T2Q1_ATM.py

TASK 3 (Testing)

Question 1

Use the Simple ATM program to write unit tests for your functions.

You are allowed to re-factor your function to 'untangle' some logic into smaller blocks of code to make it easier to write tests.

Try to write at least 5 unit tests in total covering various cases.

My Answer here:
https://github.com/diwalia/my-repo-diane/blob/week4/hw4/T3Q1_Test_ATM.py