

HOMEWORK WEEK 4

(handout for students)

TASK 1 (Git and GitHub)

Question 1

Complete definitions for key Git & GitHub terminology

GIT WORKFLOW FUNDAMENTALS

- **Working Directory**
- **Staging Area**
- **Local Repo (head)**
- **Remote repo (master)**

WORKING DIRECTORY STATES:

- **Staged**
- **Modified**
- **Committed**

GIT COMMANDS:

- **Git add**
- **Git commit**
- **Git push**
- **Git fetch**
- **Git merge**

- **Git pull**

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 and exit the program.

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.