

Hello

“I don't care if it works on your machine! We are not shipping your machine!”

–Vidiu Platon

Automated Testing

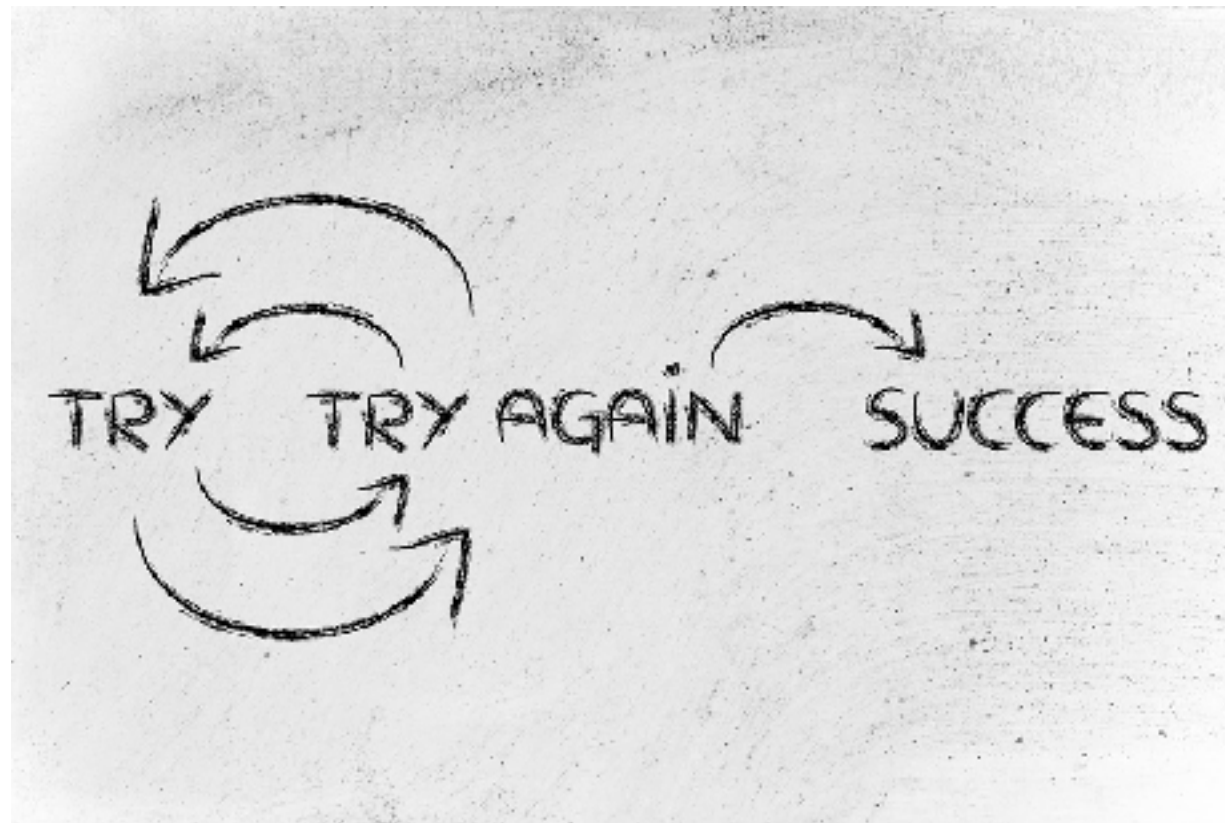
**This is going to be an interactive
session**

Things to do

- Why do we want to automate testing?
- What is unit testing? How to write a good unit testing?
- How to do testing in Python? (need your laptop)
- When to stop the testing?

Reasons to Automate Testing

We want to fail fast (...before doing any demo)



Reasons to Automate Testing

We want to avoid snowball effect (the bug is getting bigger)



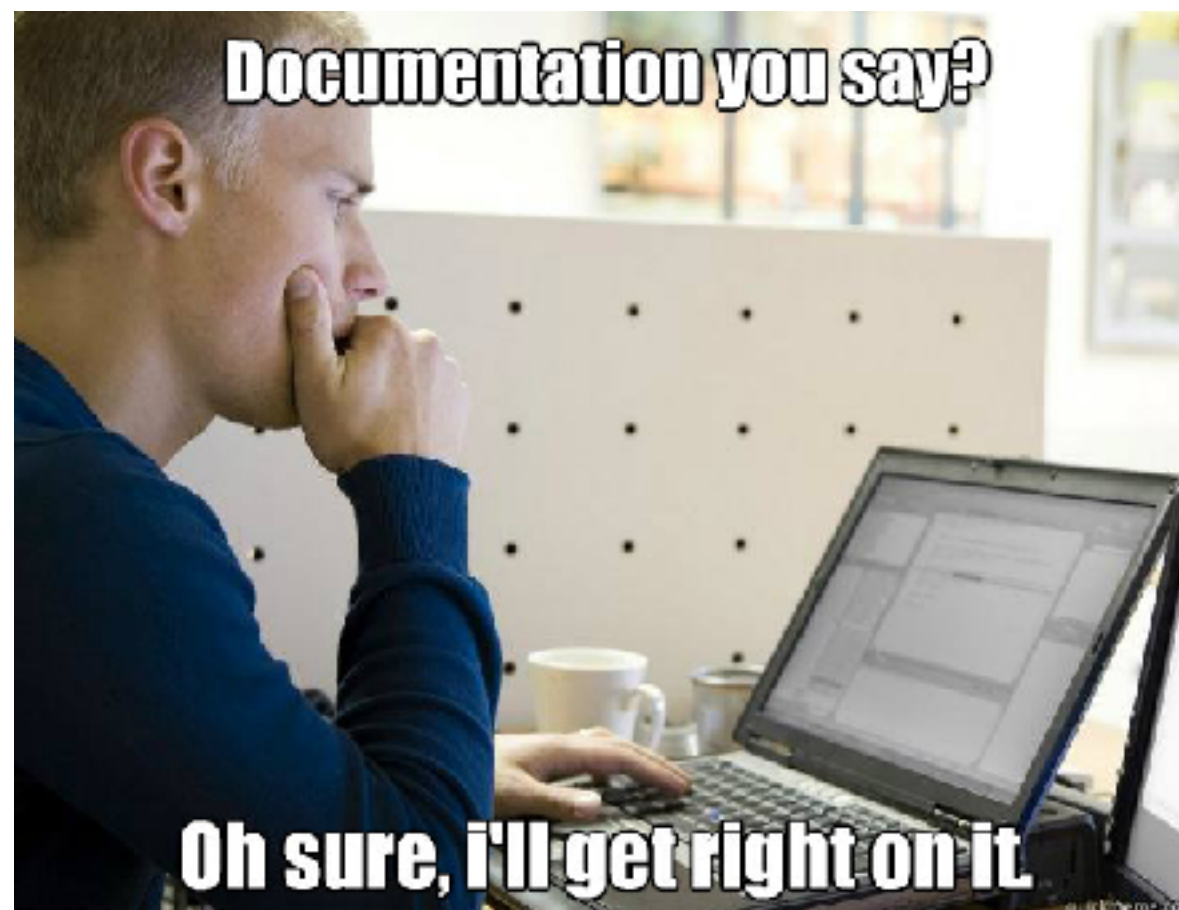
Reasons to Automate Testing

We want to schedule the test automatically



Reasons to Automate Testing

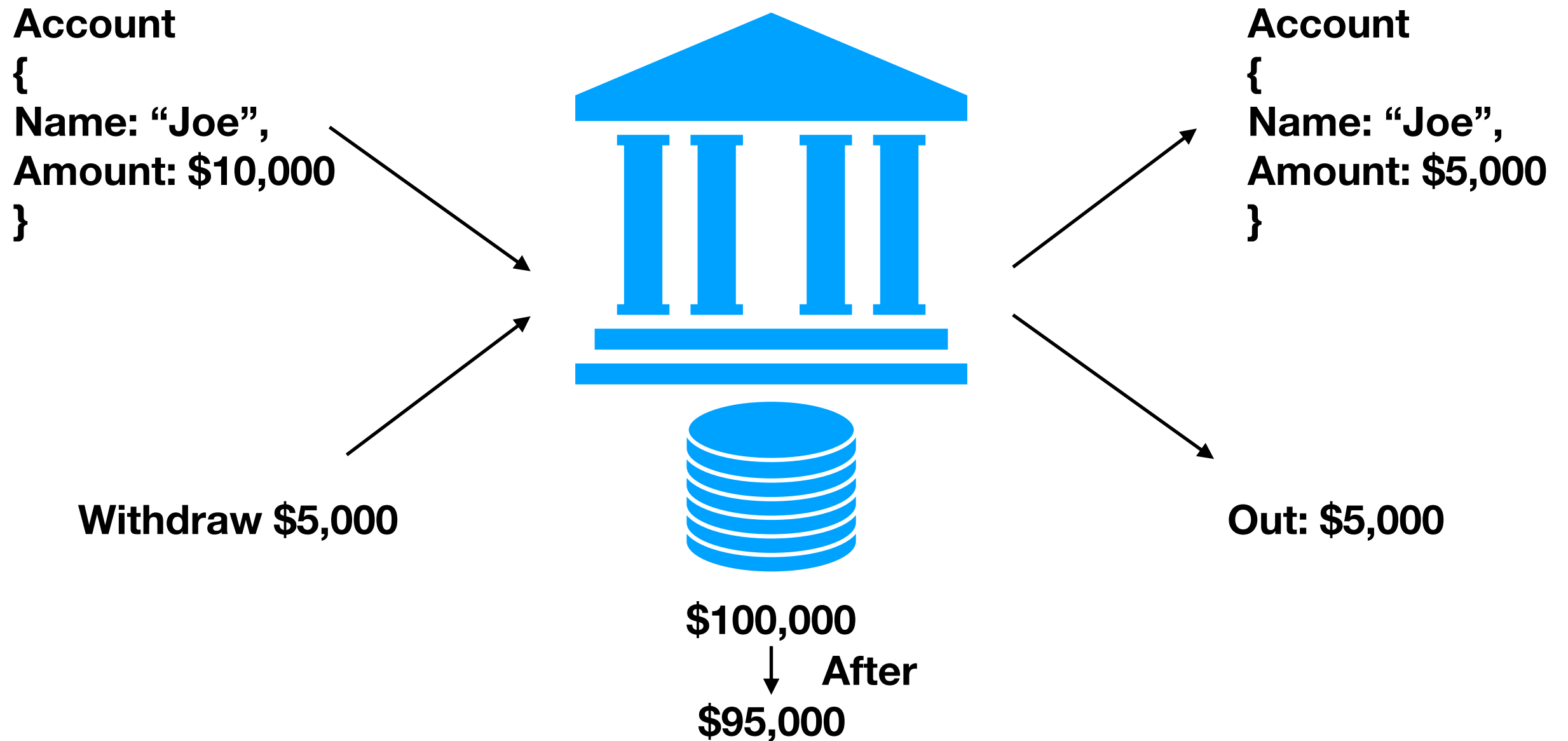
We want to understand each methods



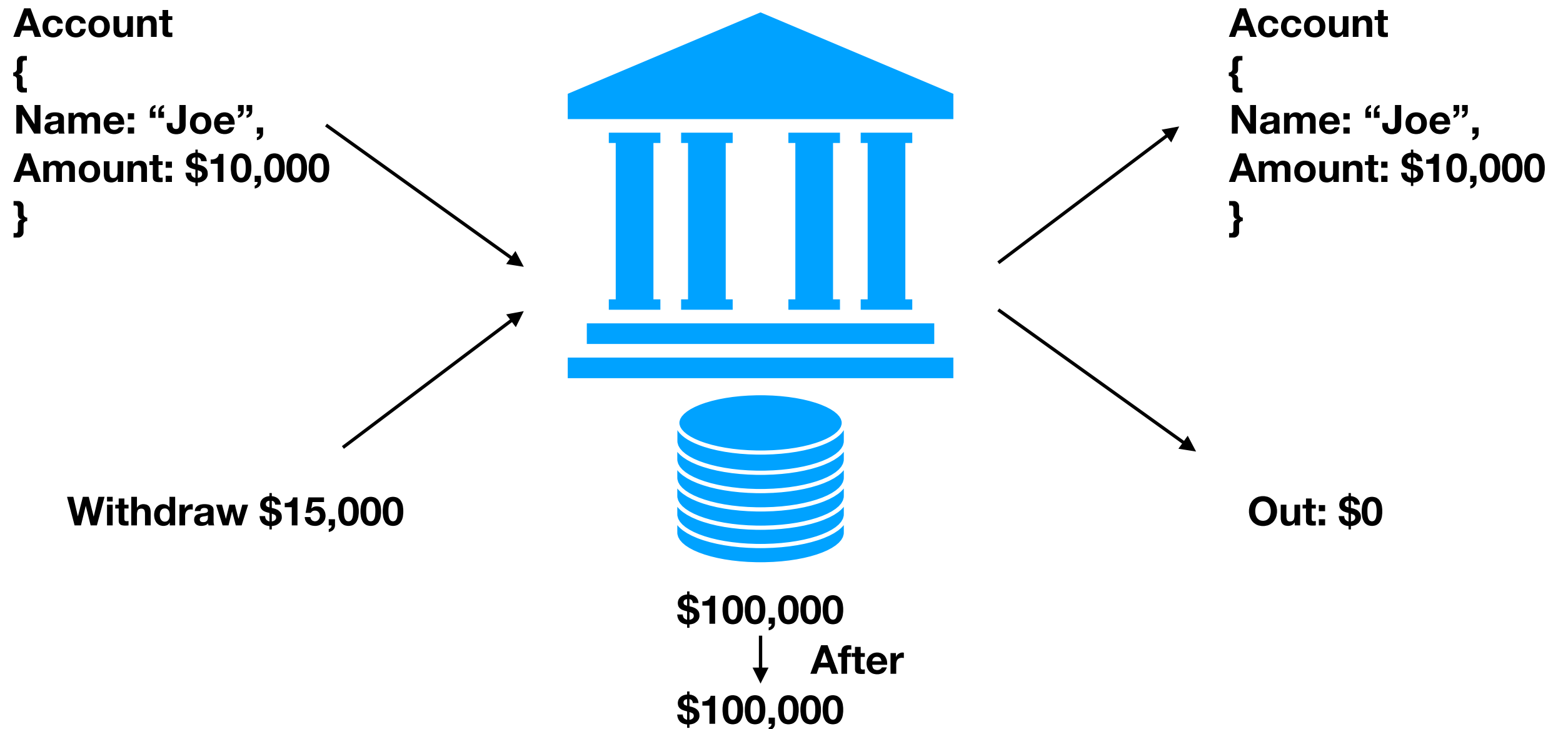
Unit Testing

(The term unit refers to an individual)

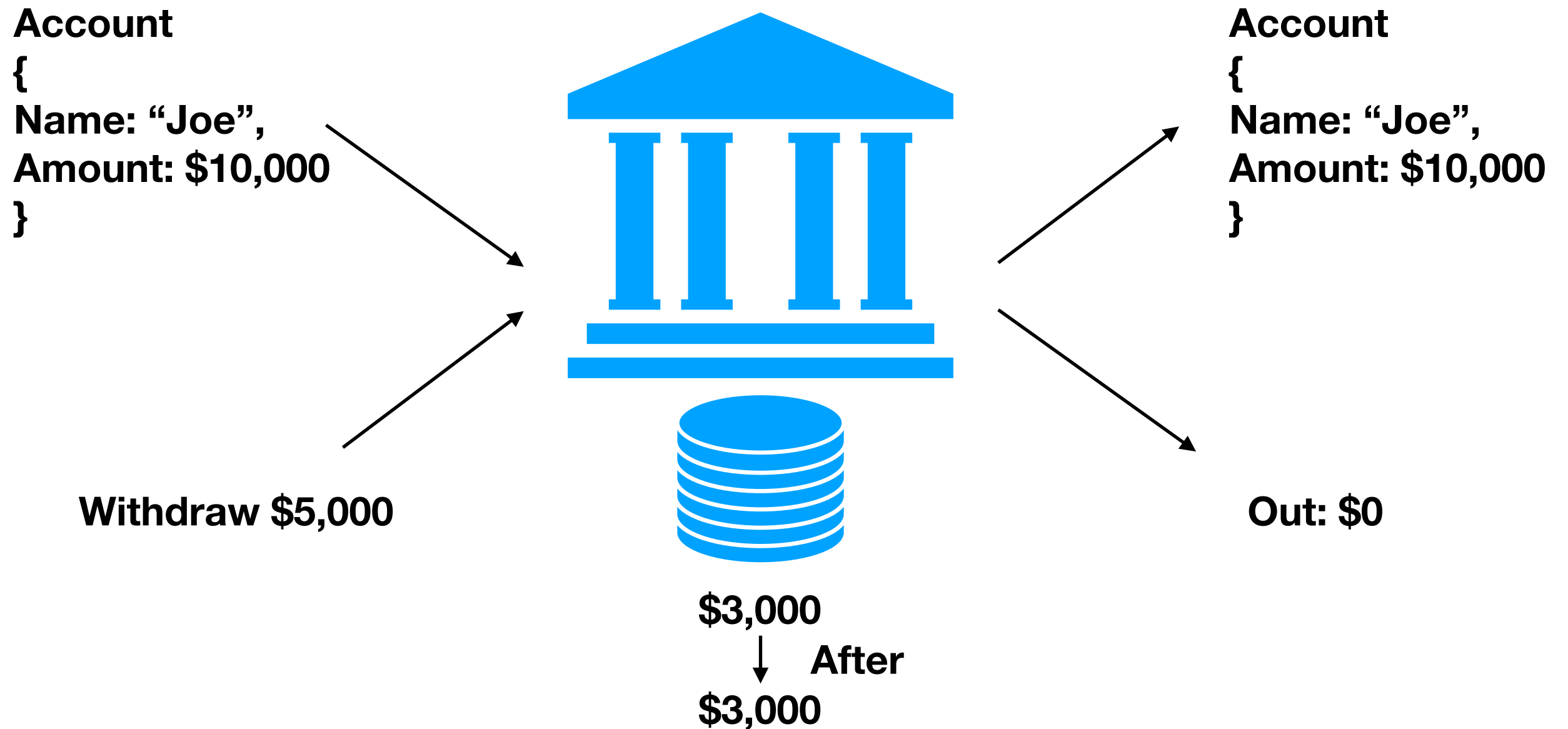
Scenario 1 - ATM Withdrawal Function



Scenario 2 - ATM Withdrawal Function



Scenario 3 - ATM Withdrawal Function



How to write a test?

Think about the scenarios before the code. The scenarios should be independent from the code.

Example: the withdrawal function

1. **If I** have \$10,000 in my bank account and I withdraw \$500, **then**
 - A. **I should** receive \$500
 - B. **I should** have my account deducted to \$9,500

How to write a test?

It is important to know methods that are testable and non-testable. **A method should be deterministic** for it to be testable. Example:

```
from datetime import datetime as dt

def non_testable_method():

    if dt.now().hour < 10:
        return "Morning"

    elif dt.now().hour < 18:
        return "Afternoon"

    else:
        return "Evening"
```

How to write a test?

Leave no trace when doing testing, especially for tests that involve database and filesystem.

- If you are creating a database table, ensure that the table is removed
- If you are writing a data file, ensure that the file gets deleted

Lastly, **think about the edge cases!!**

Let's Get Started

Next Step

- Organising your test code to larger application
- Mocking a HTTP calls
- Discover pytest (dubbed the better unittest)
- Learn more about other test type (Acceptance Test, A/B Test, ...)

Thanks for Attending

(Any questions?)