

Acceptance Test-Driven Development with **Robot Framework**



Somkiat Puisungnoen

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Agenda



Day 1

Acceptance Test-Driven Development

Concept of Robot Framework

Installation

Architecture of Robot Framework



Day 1

Create test case

Execute test case

How to write **better** test case ?



Day 2

Data Driven Testing

Test template

Working with command line

APIs testing

Integration with **Continuous Integration**

Custom test report



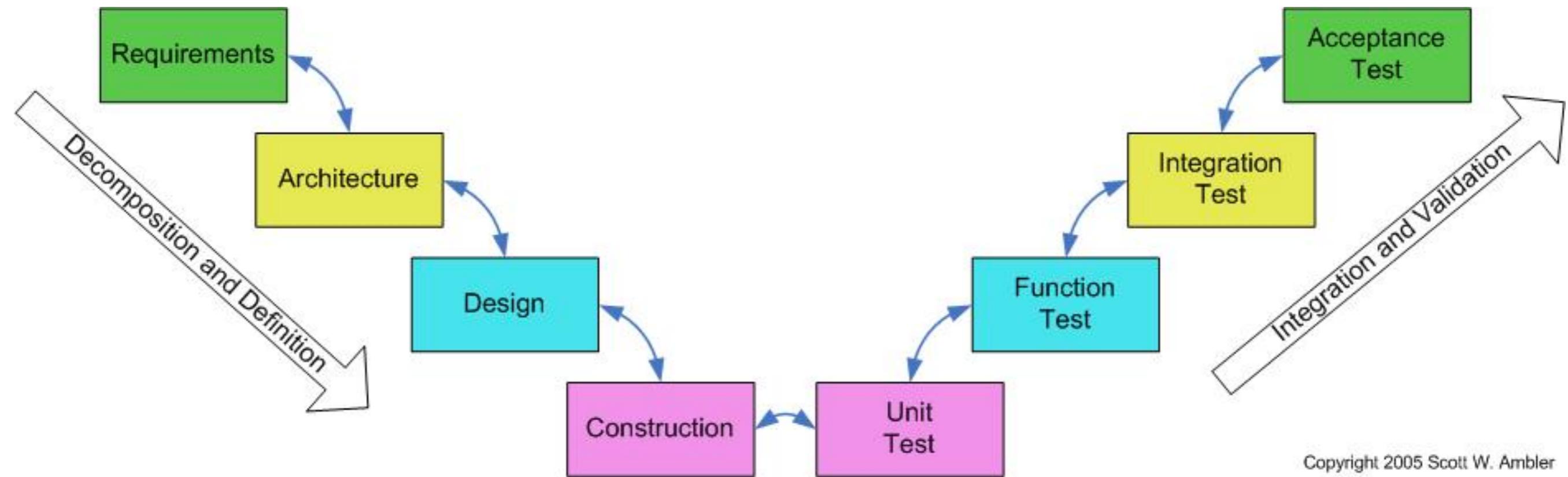
Let's start



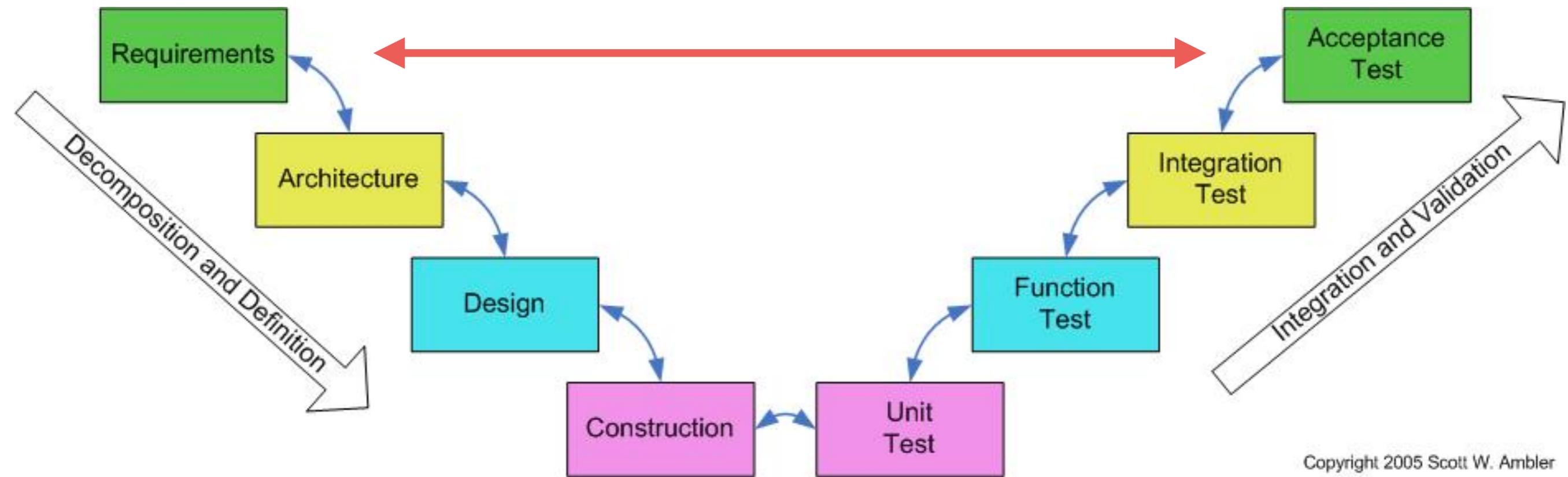
Write your Goal(s) !!



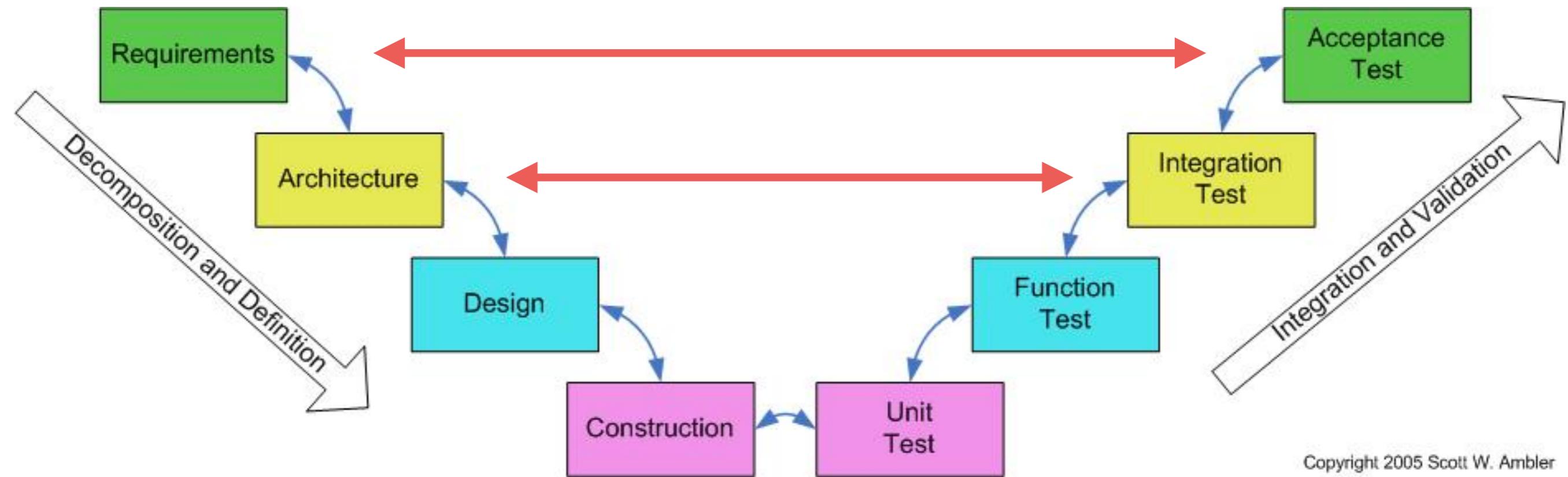
V-Model



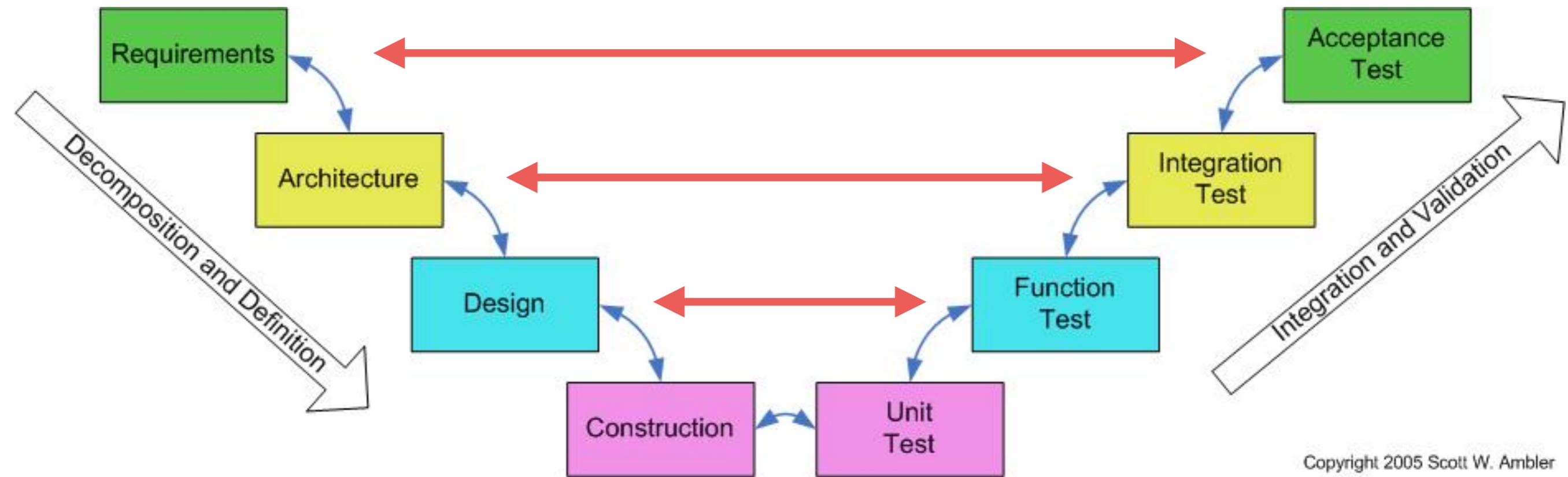
V-Model



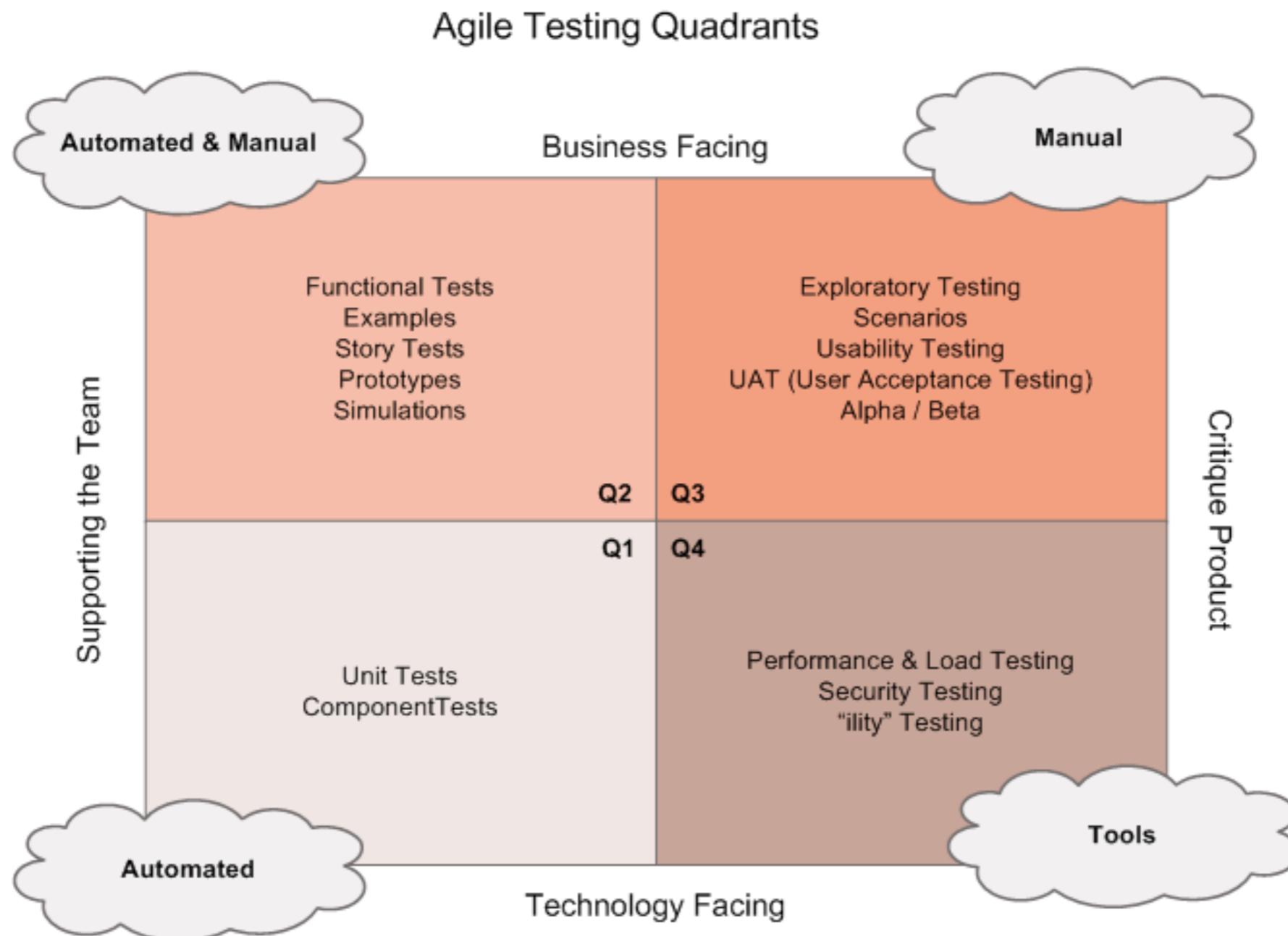
V-Model



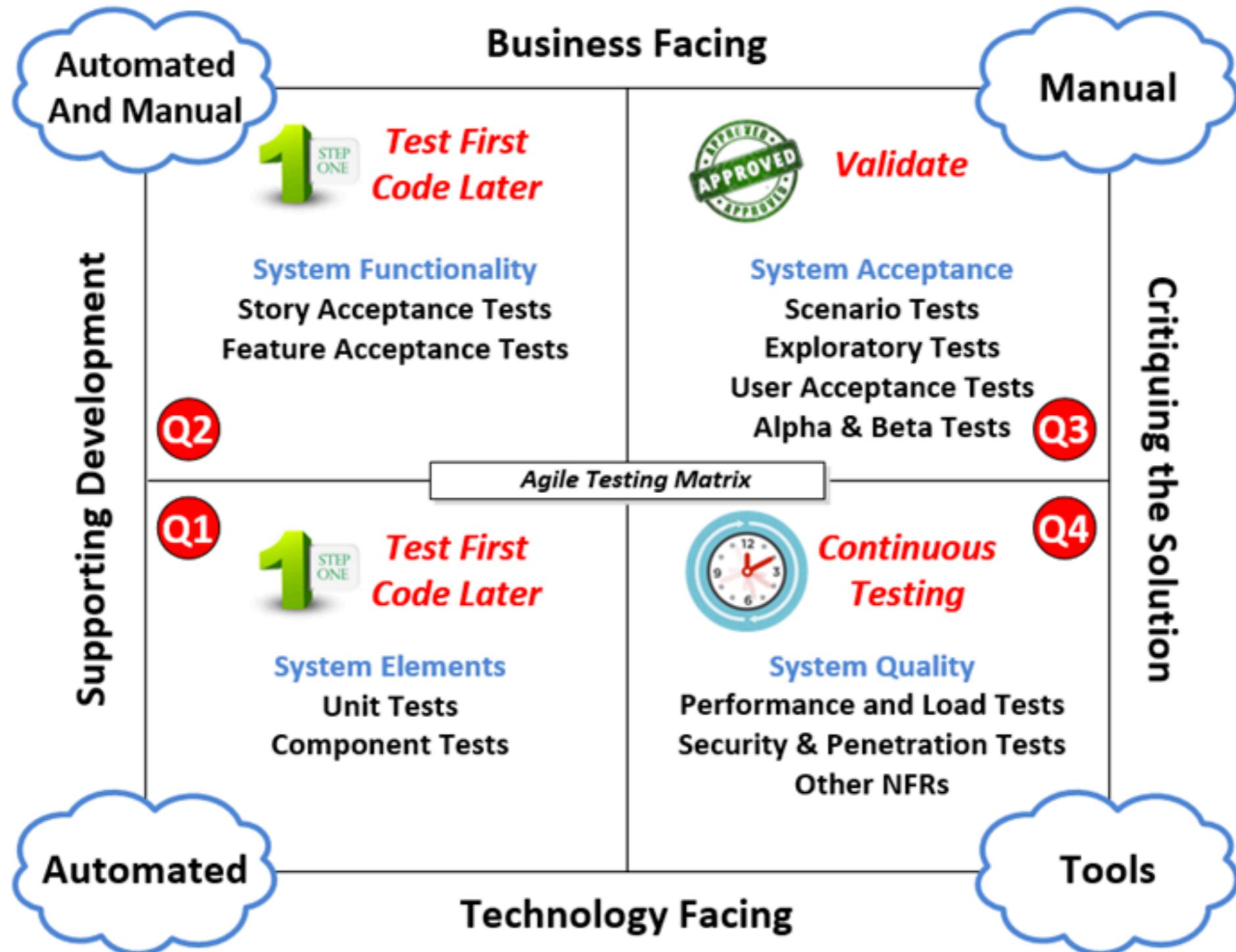
V-Model



Agile Testing



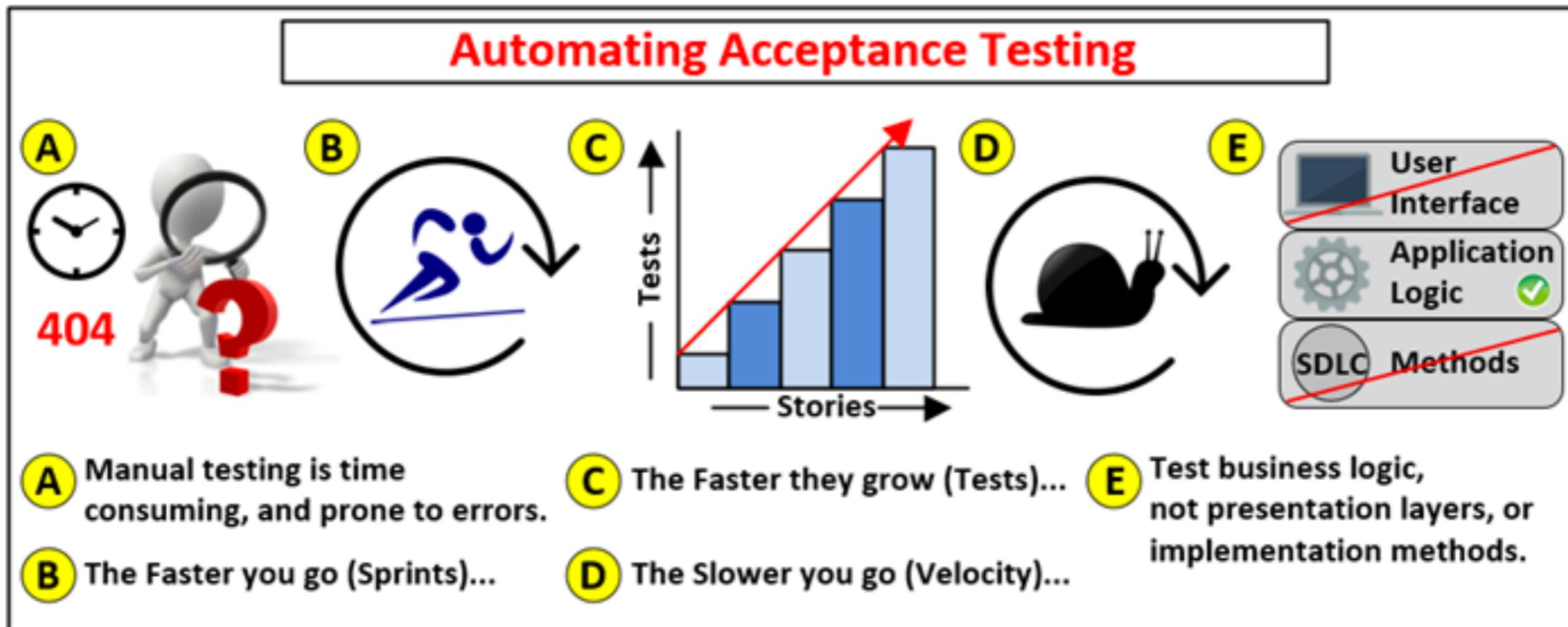
Agile Testing



<https://www.scrumalliance.org/community/articles/2015/september/a-visual-approach-to-test-driven-agile>



Test Automation is essential

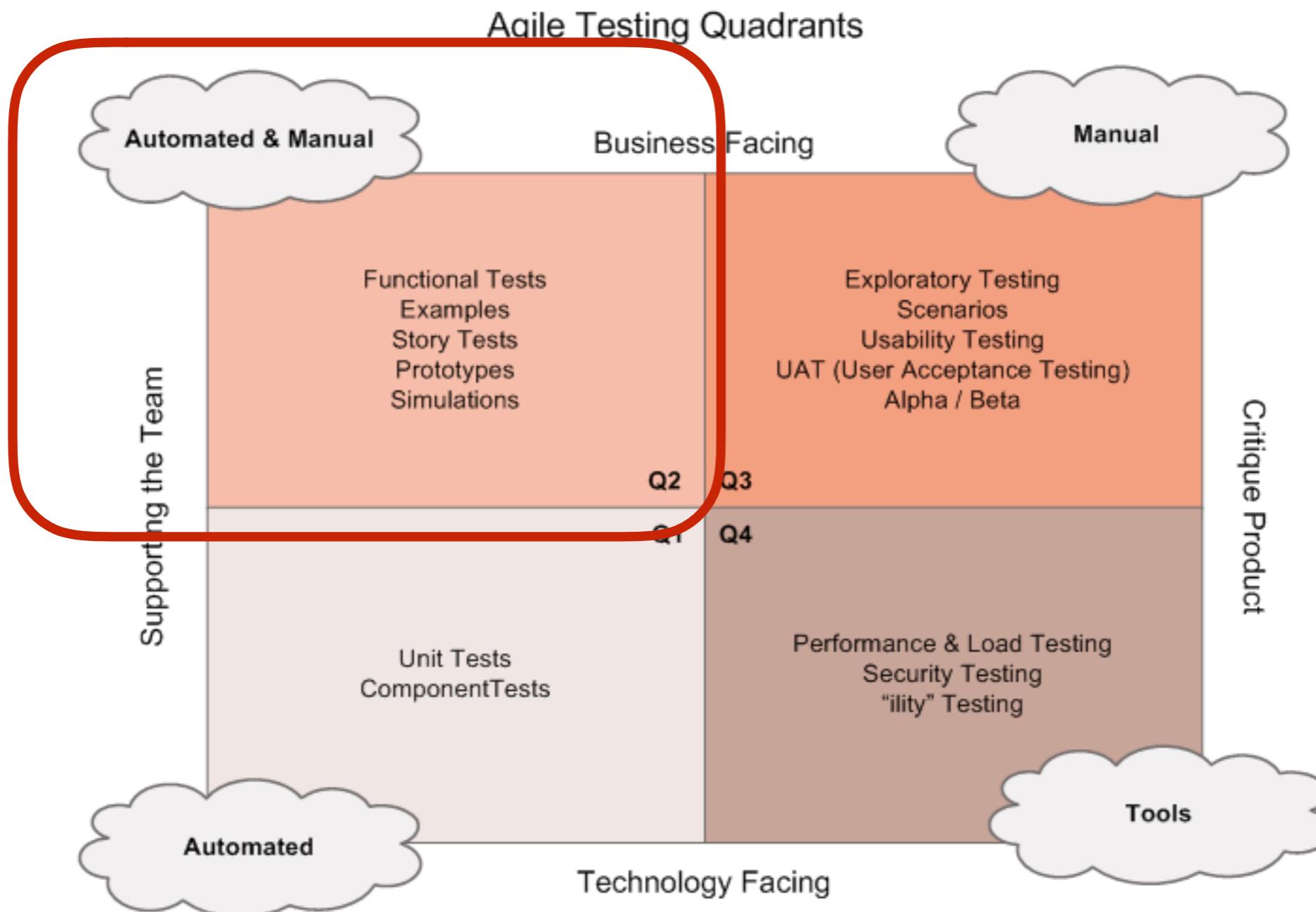


Acceptance Test-Driven Development



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Agile Testing



ATDD

Common understanding

Common language

Executable requirements or examples

Living documentation



Same goal !!

Story Driven **D**evelopment

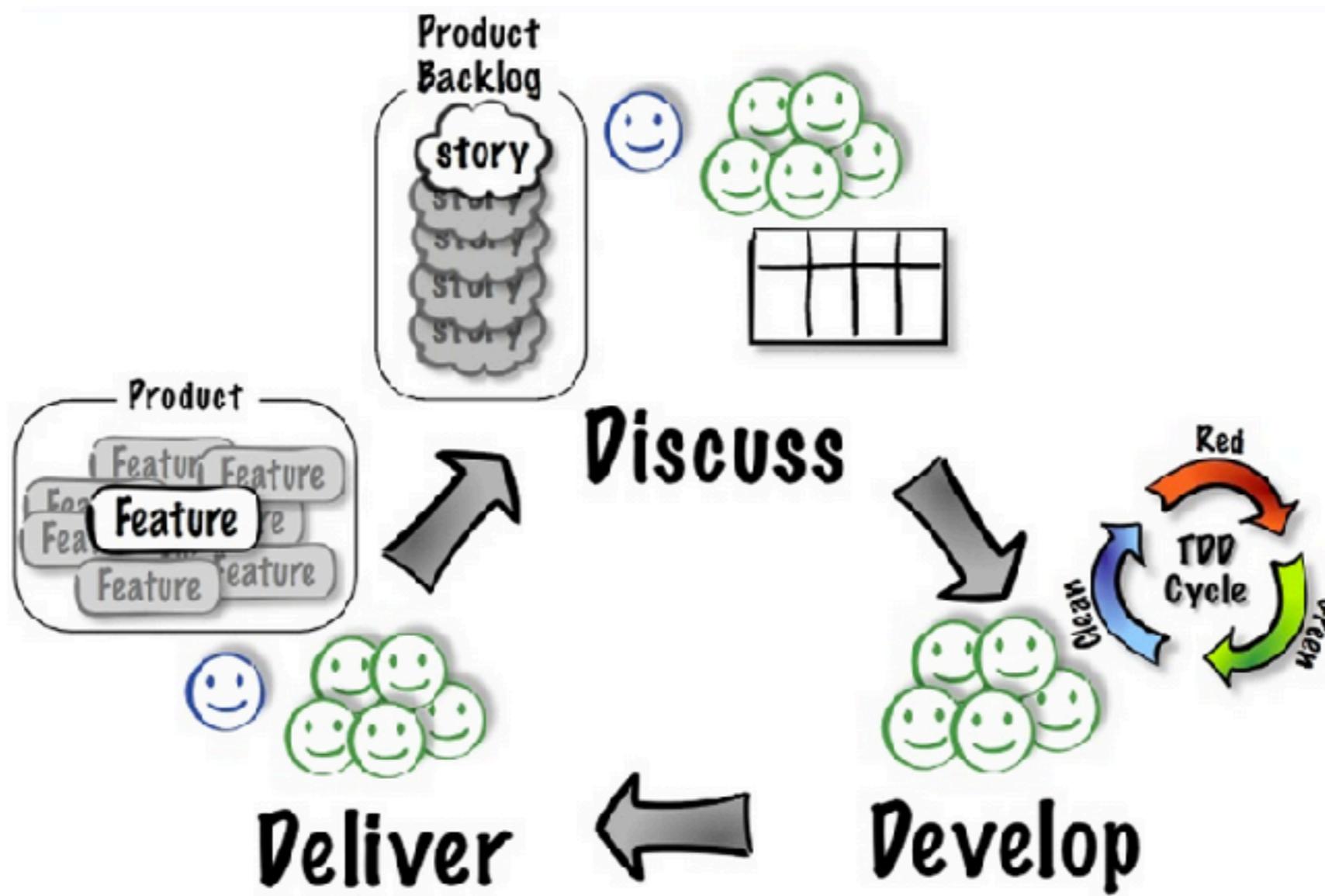
Behavior Driven **D**evelopment

Specification **by E**xample

Example Driven **D**evelopment



ATDD cycle

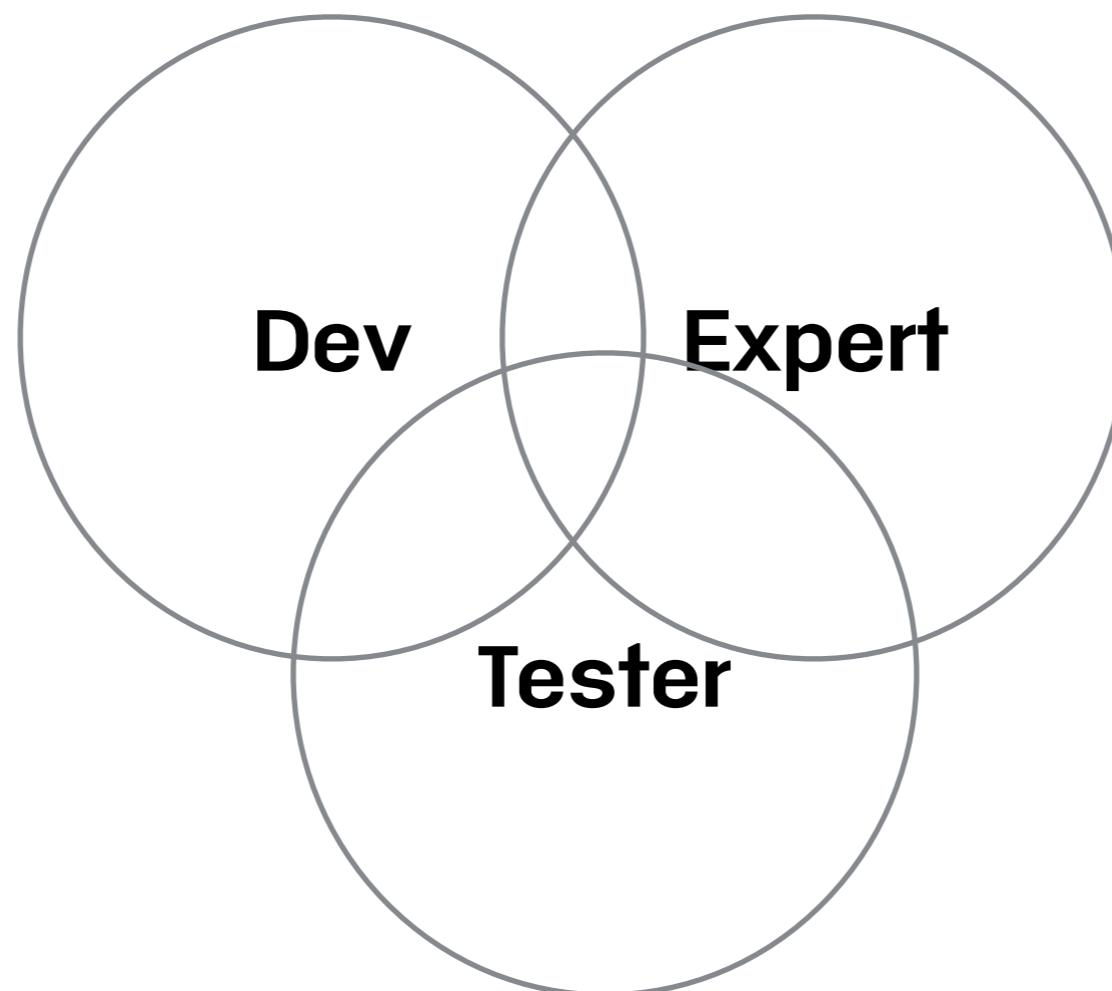


(Model developed with Pekka Klärck, Bas Vodde, and Craig Larman.)



1. Discuss

Whole team approach



1. Discuss

Whole team approach

Sharing understanding

Clarify the solution

Concrete examples

Examples can be use in **automated !!**



2. Develop

Implement work with specified examples

Automation of the examples

Whole team is responsible on automation

At the end, all automated examples **pass**



3. Deliver

Features are **demonstrated** to all stakeholders

All examples pass (new + existing)

Feedback as input to the next discuss



Acceptance Tests

=

Acceptance Criteria

+

Examples(data + scenarios)



Robot Framework



Introduction

Test automation framework

Designed for Acceptance testing(ATDD)

Developed with Python

Compatible with Java (Jython)



History

Started from **Pekka Klärck's** masters thesis

HELSINKI UNIVERSITY OF TECHNOLOGY	ABSTRACT OF THE MASTER'S THESIS	
Author:	Pekka Laukkanen	
Name of the thesis:	Data-Driven and Keyword-Driven Test Automation Frameworks	
Date:	February 24, 2006	Number of pages: 98 + 0
Department:	Department of Computer Science and Engineering	Professorship: T-76
Supervisor:	Prof. Reijo Sulonen	
Instructor:	Harri Töhönen, M.Sc.	



History

Initialed in 2005 by Nokia Siemens Network

Opensource in 2008

Created robotframework.org

Big communities at [Github](https://github.com)



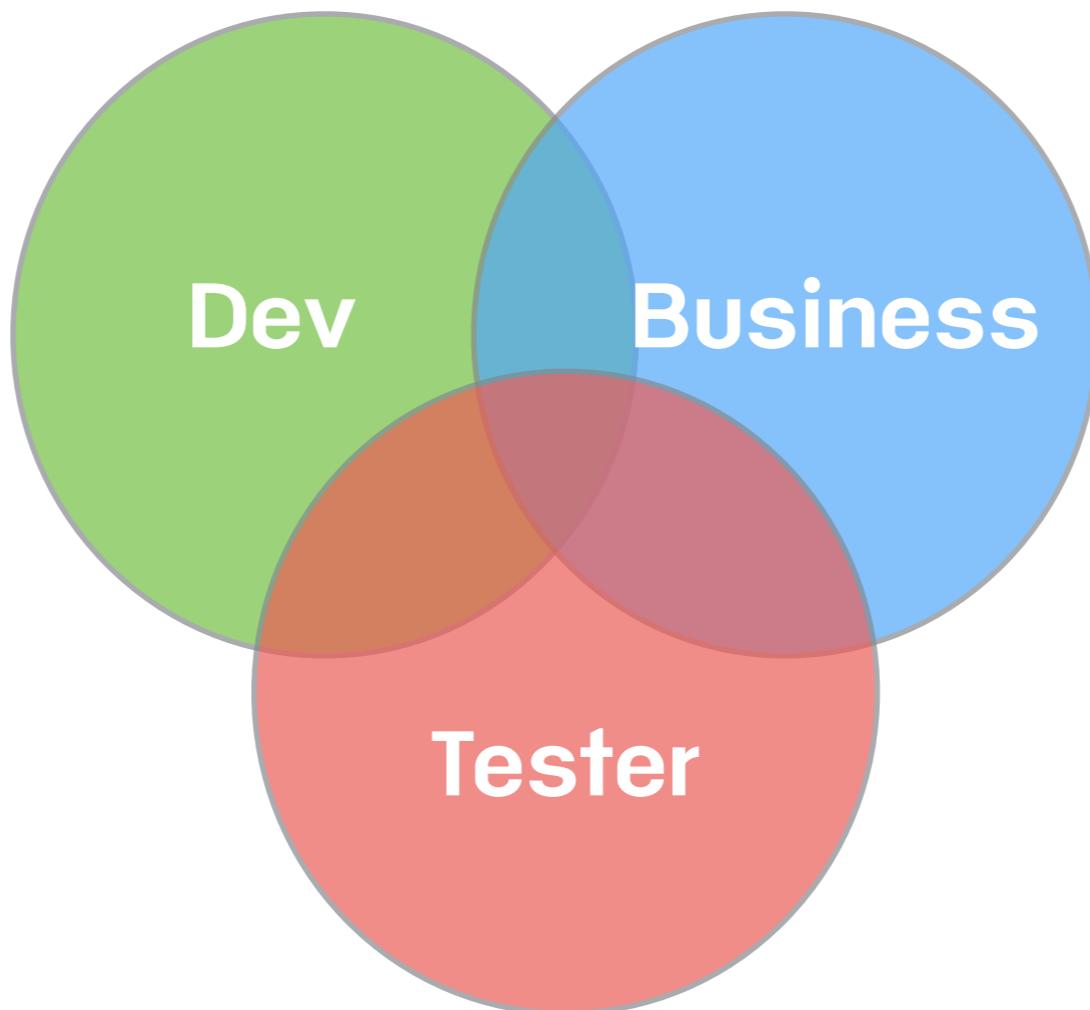
Concepts

Acceptance Testing

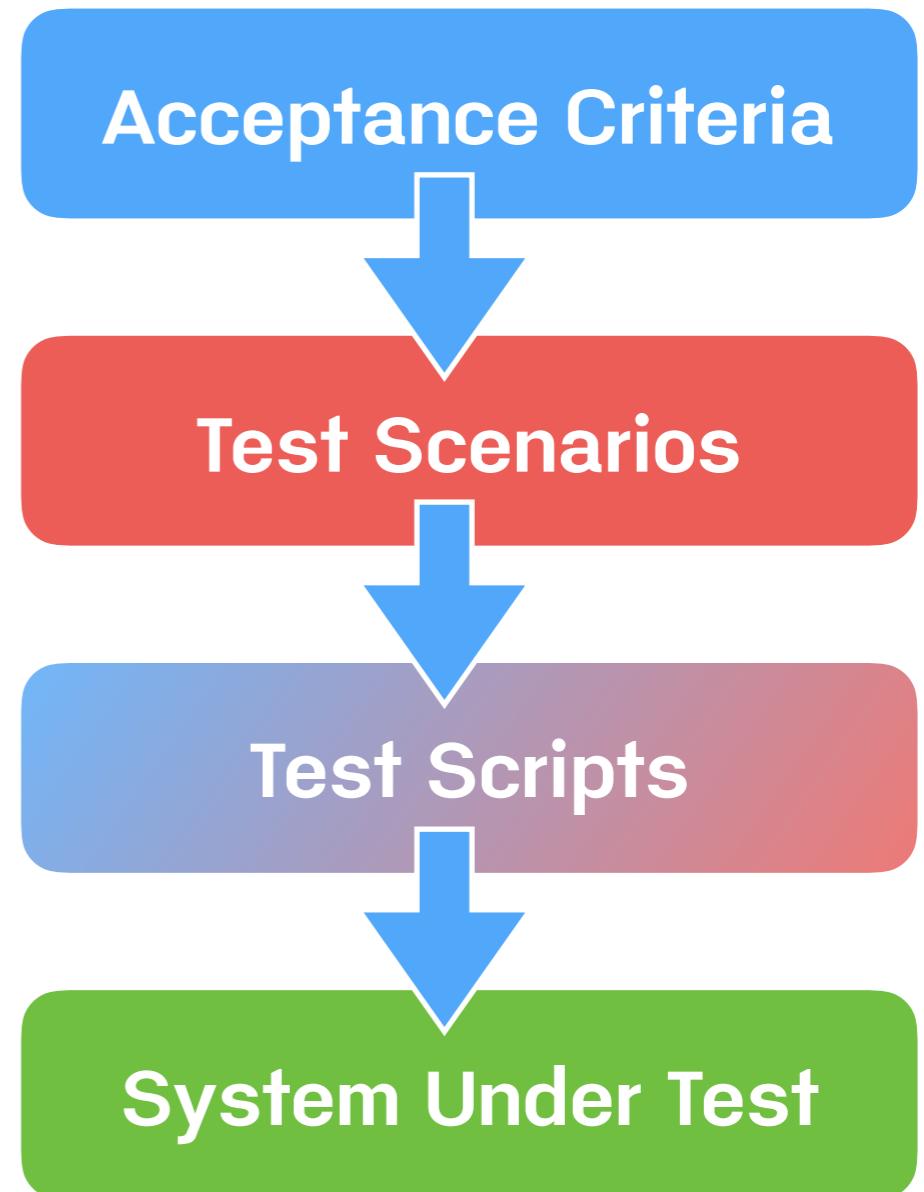
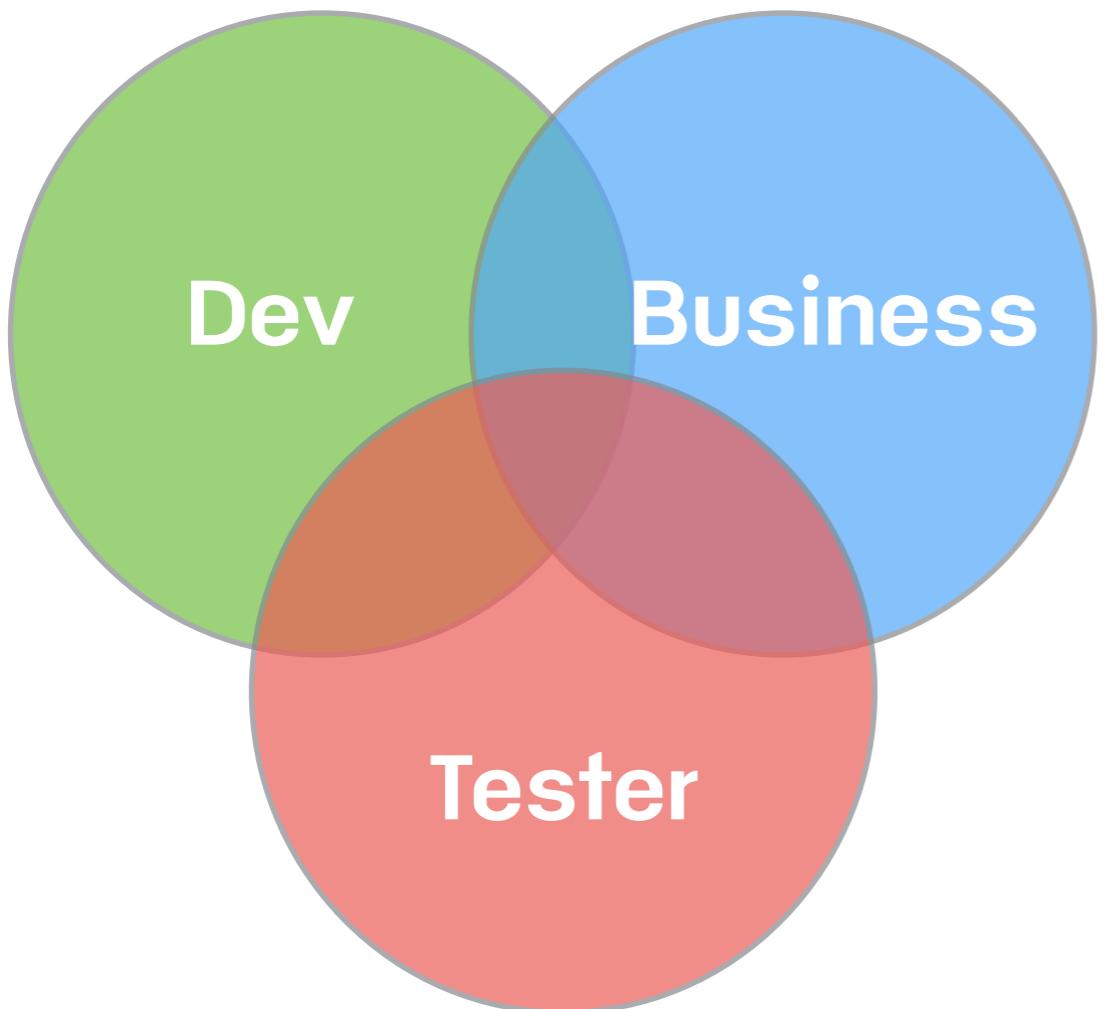
Keyword Driven Development



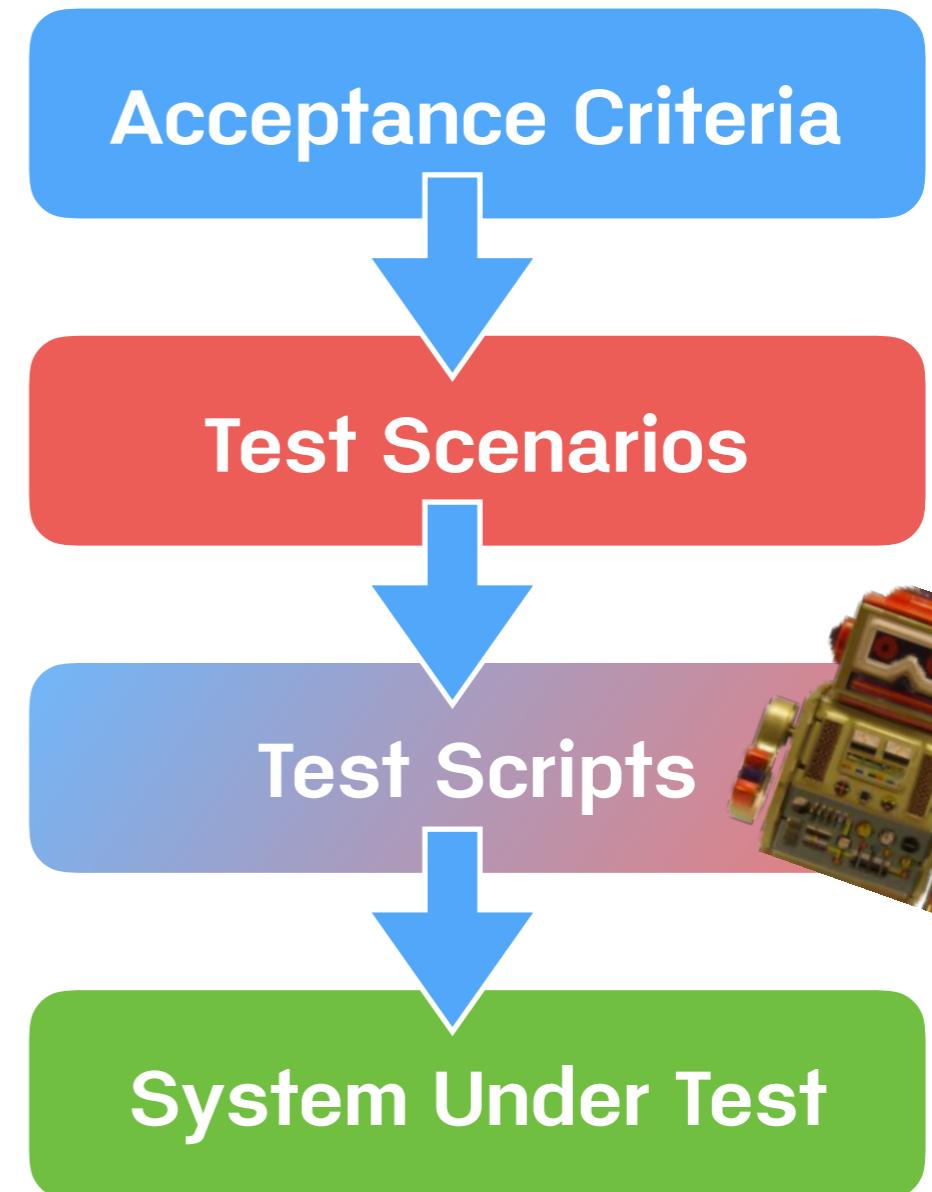
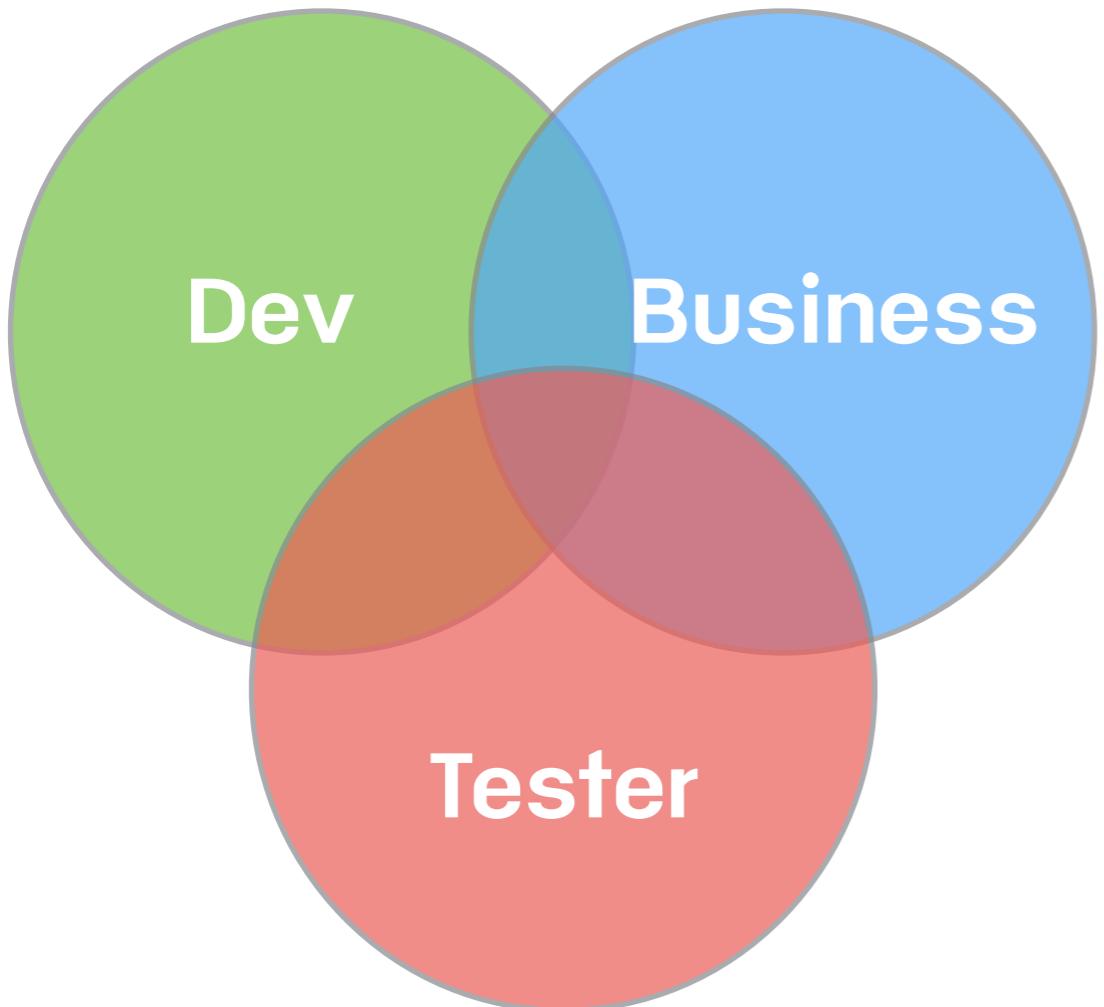
Acceptance Testing



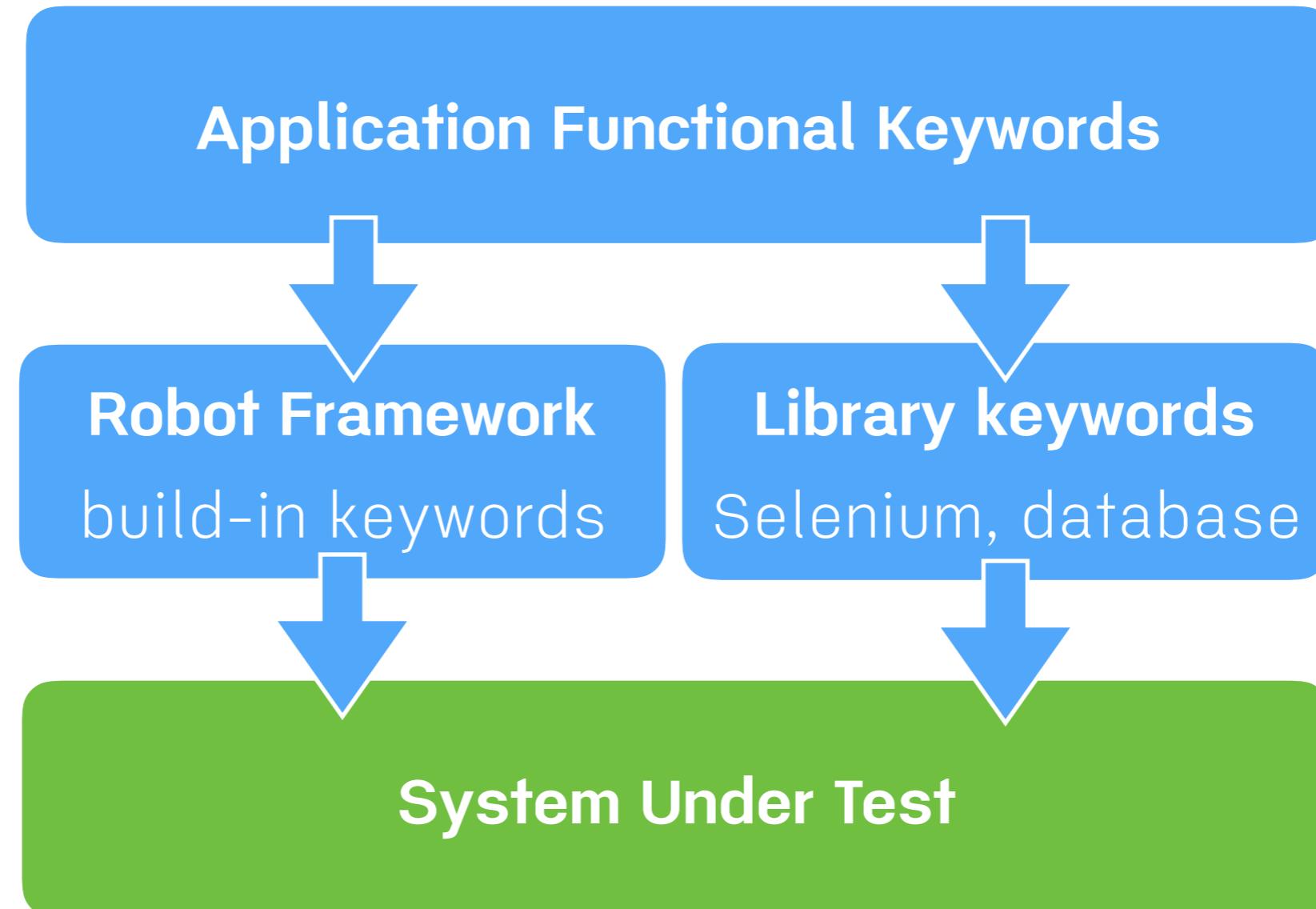
Acceptance Testing



Acceptance Testing



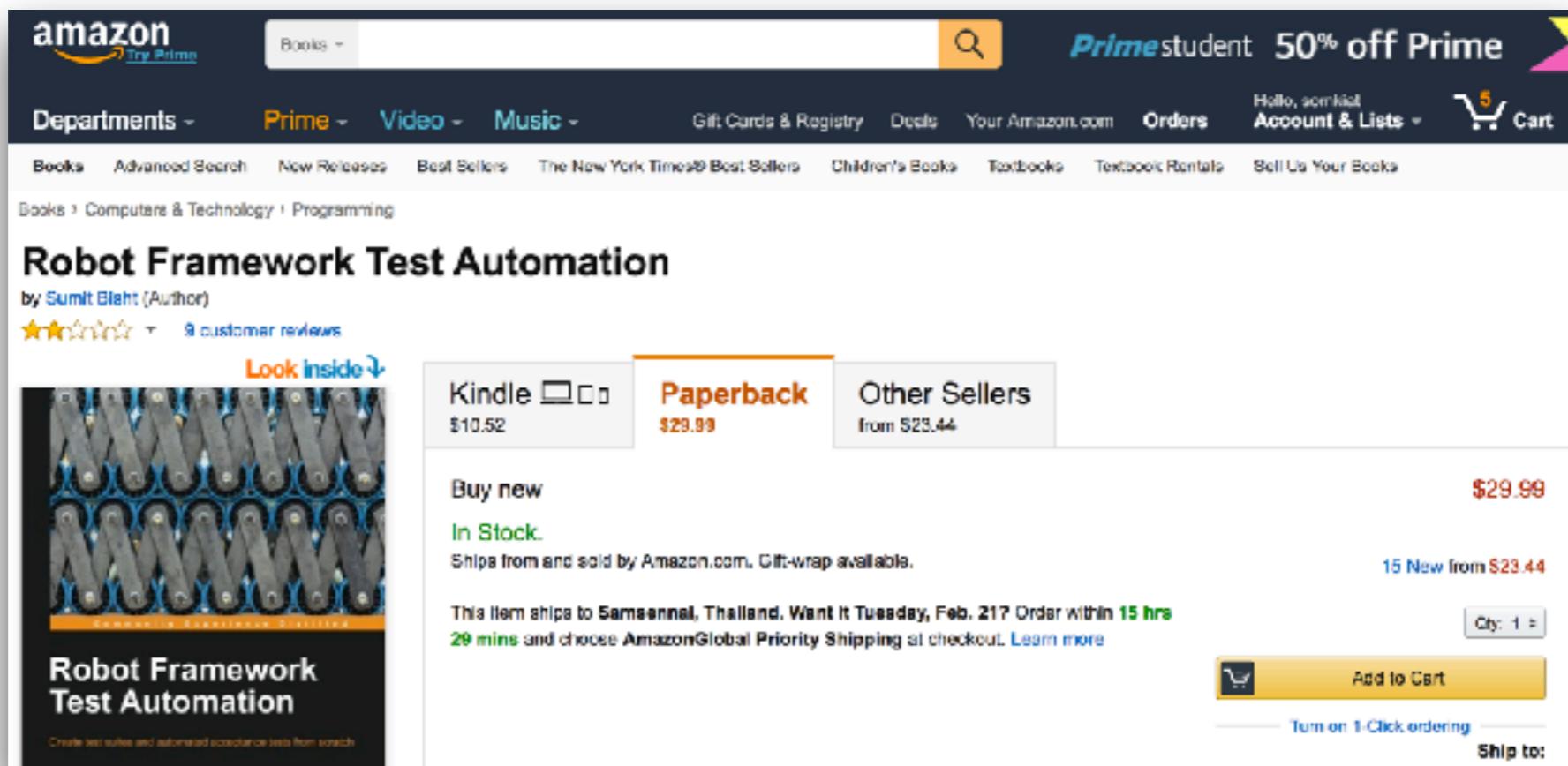
Keyword Driven Development



Keyword Driven Development

Example scenario

“Add product to cart”



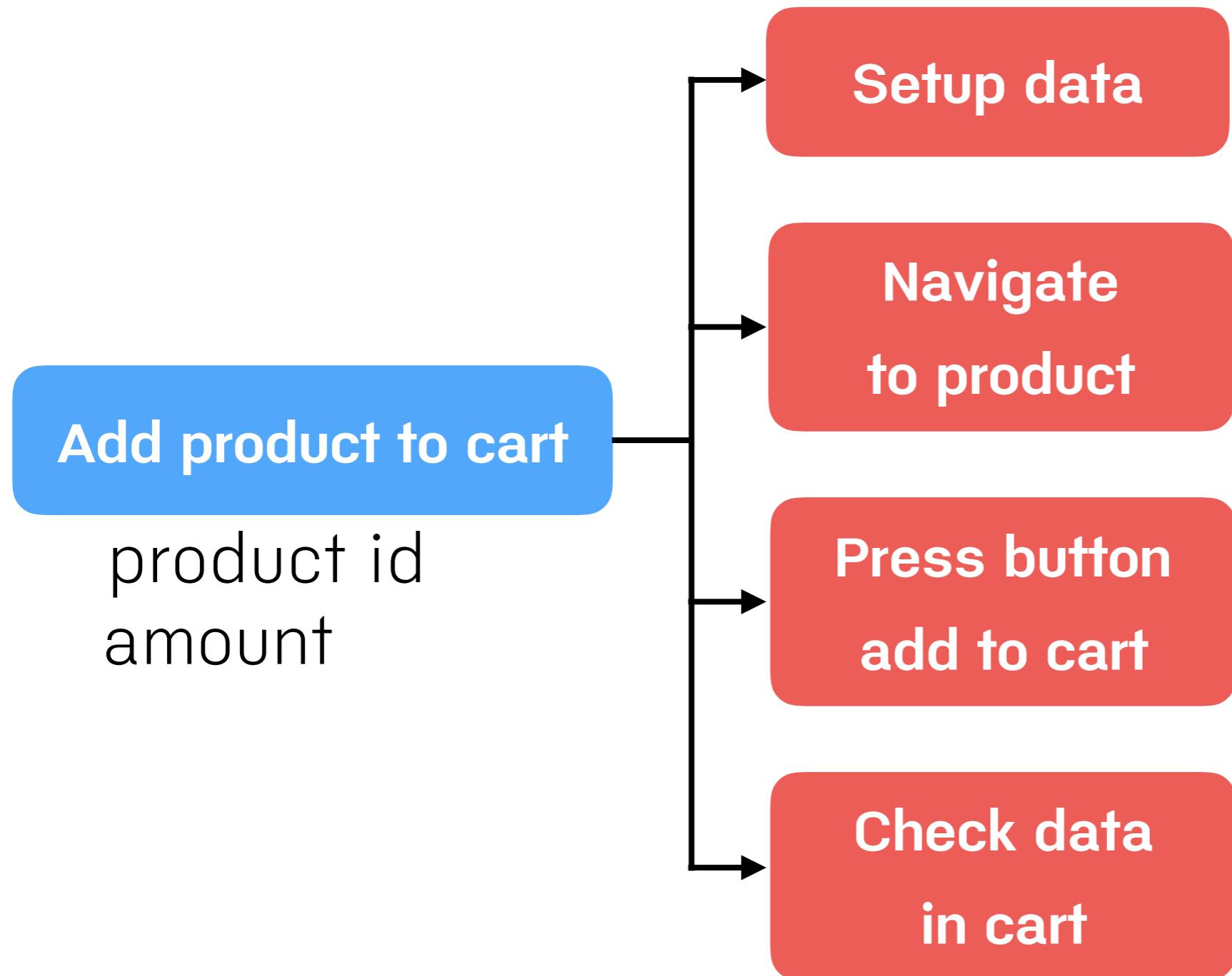
Add product to cart

Add product to cart

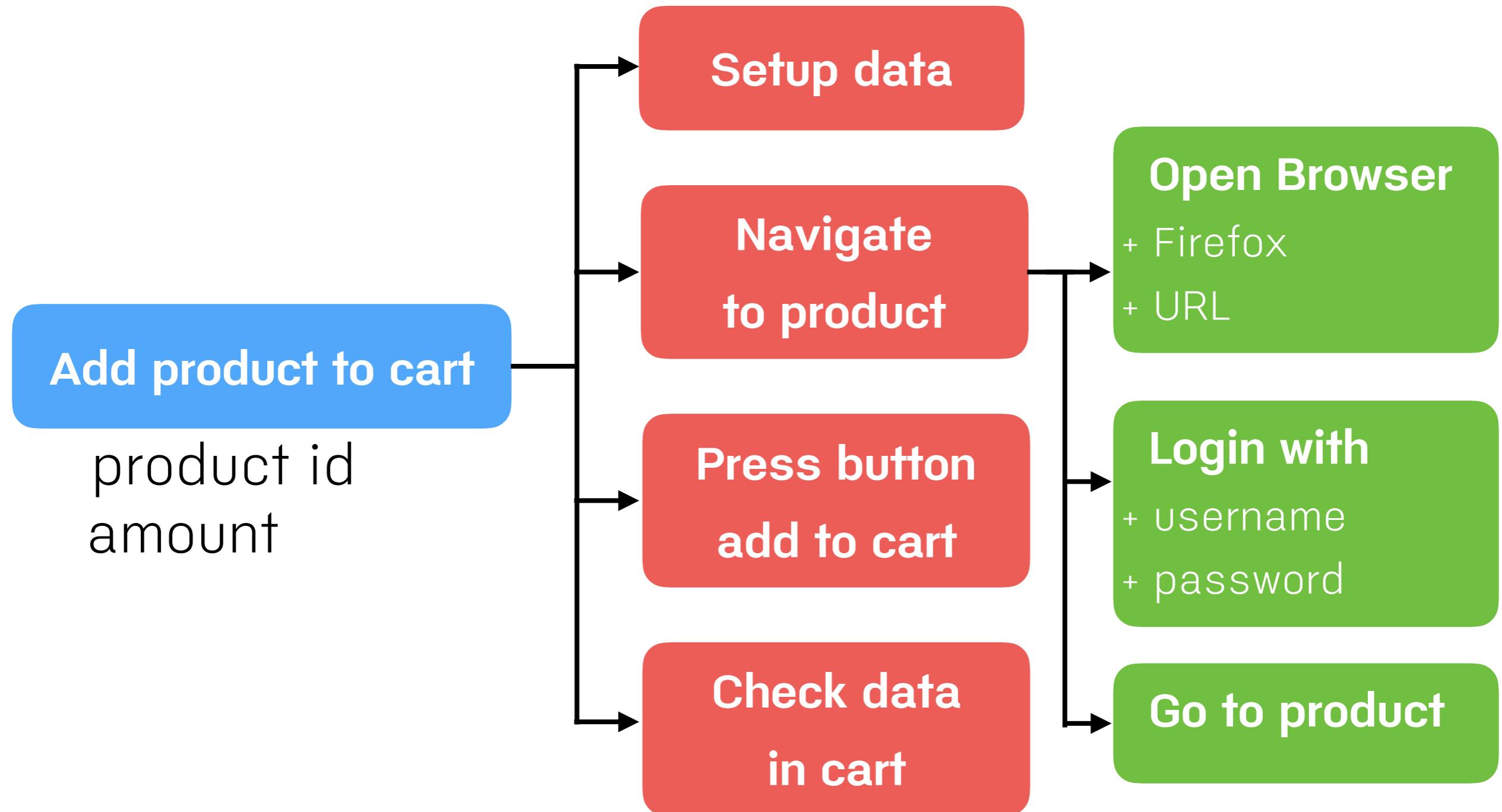
product id
amount



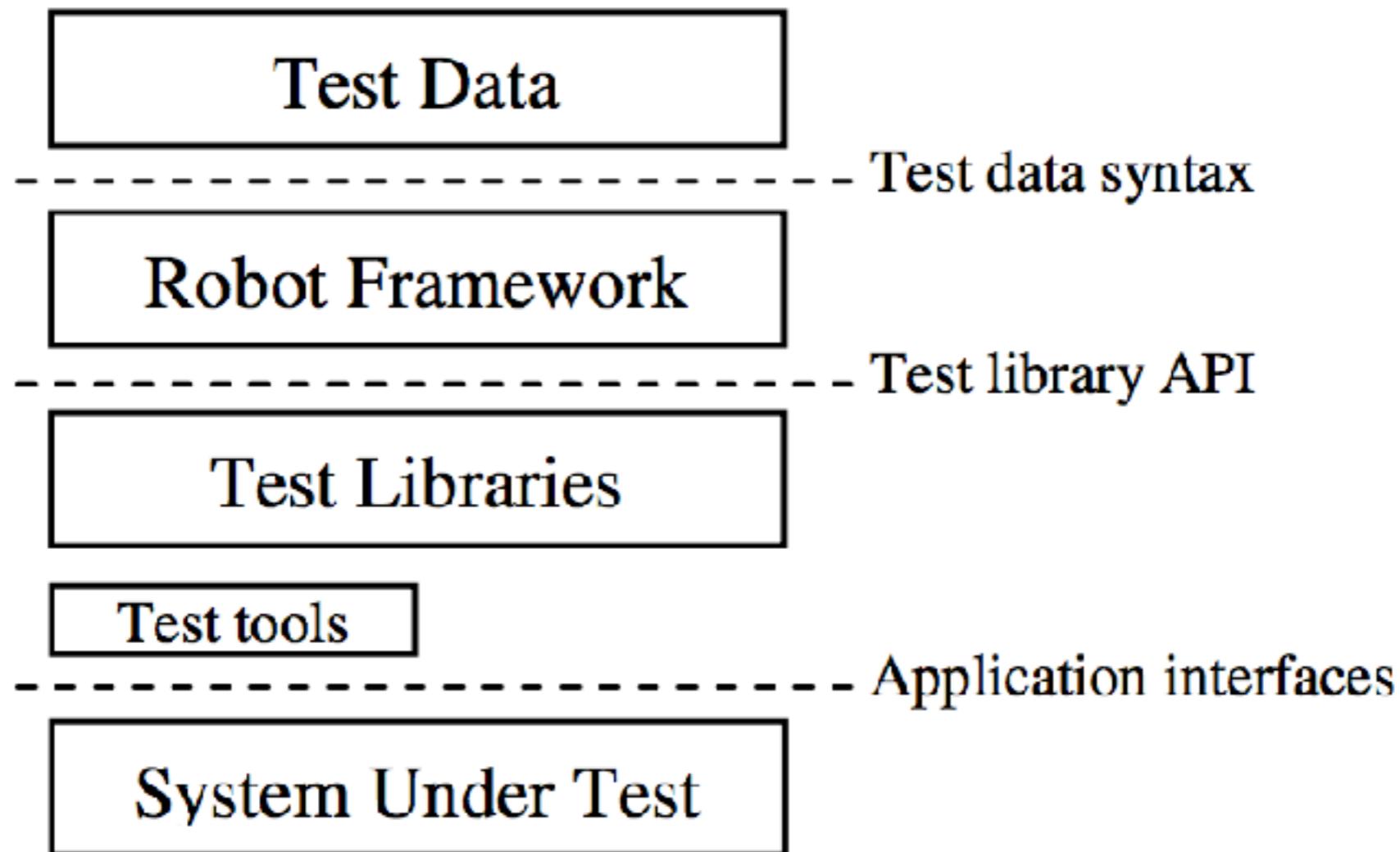
Add product to cart



Add product to cart



High level architecture



Robot Framework Development



Installation

1. Python 2.7.13
2. PIP (Package manager for python)
3. Robot Framework
4. Robot Framework Library
5. IDE and Editor



Install python and pip



For Windows



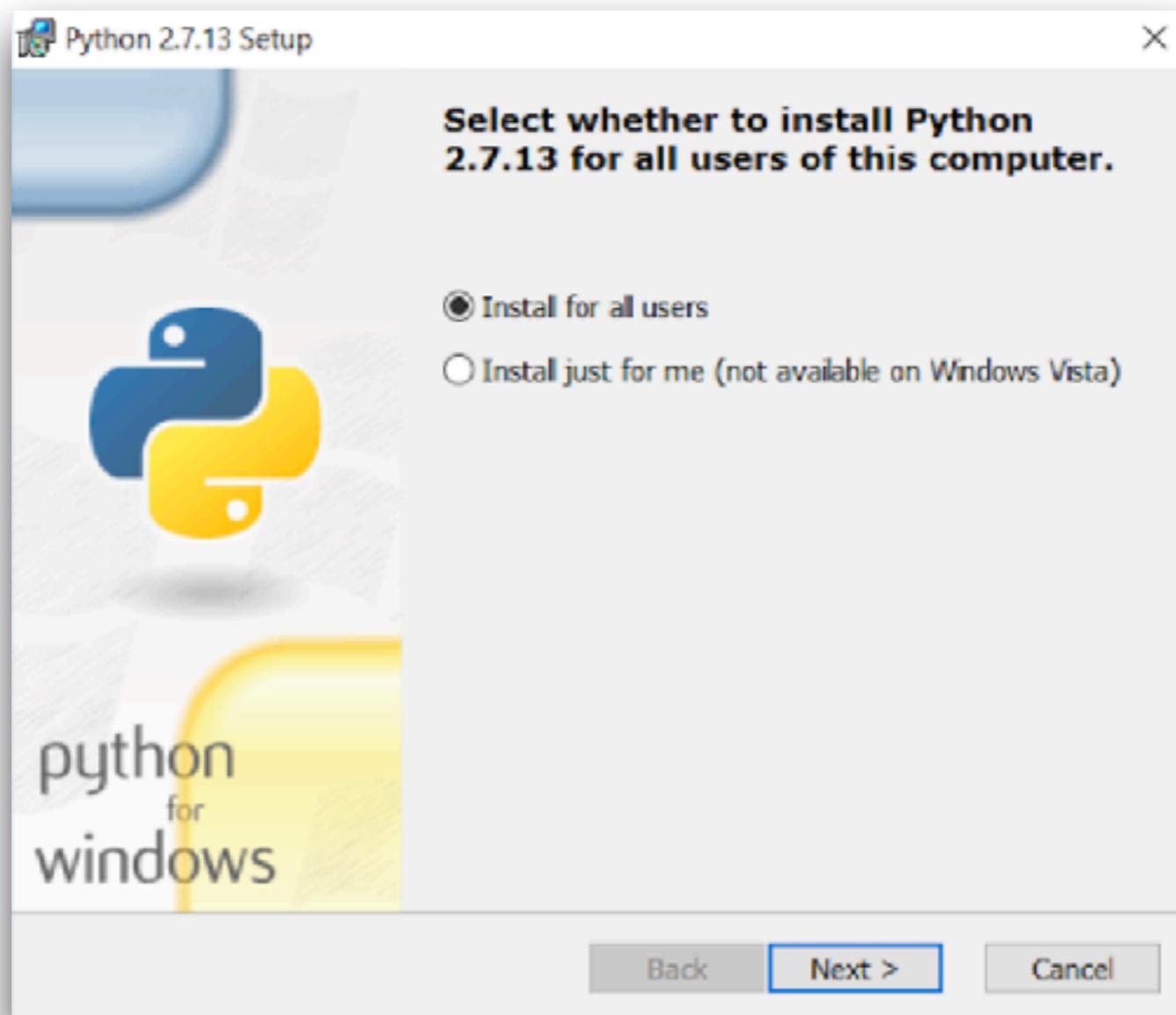
Download Python 2.7.13

<https://www.python.org/>

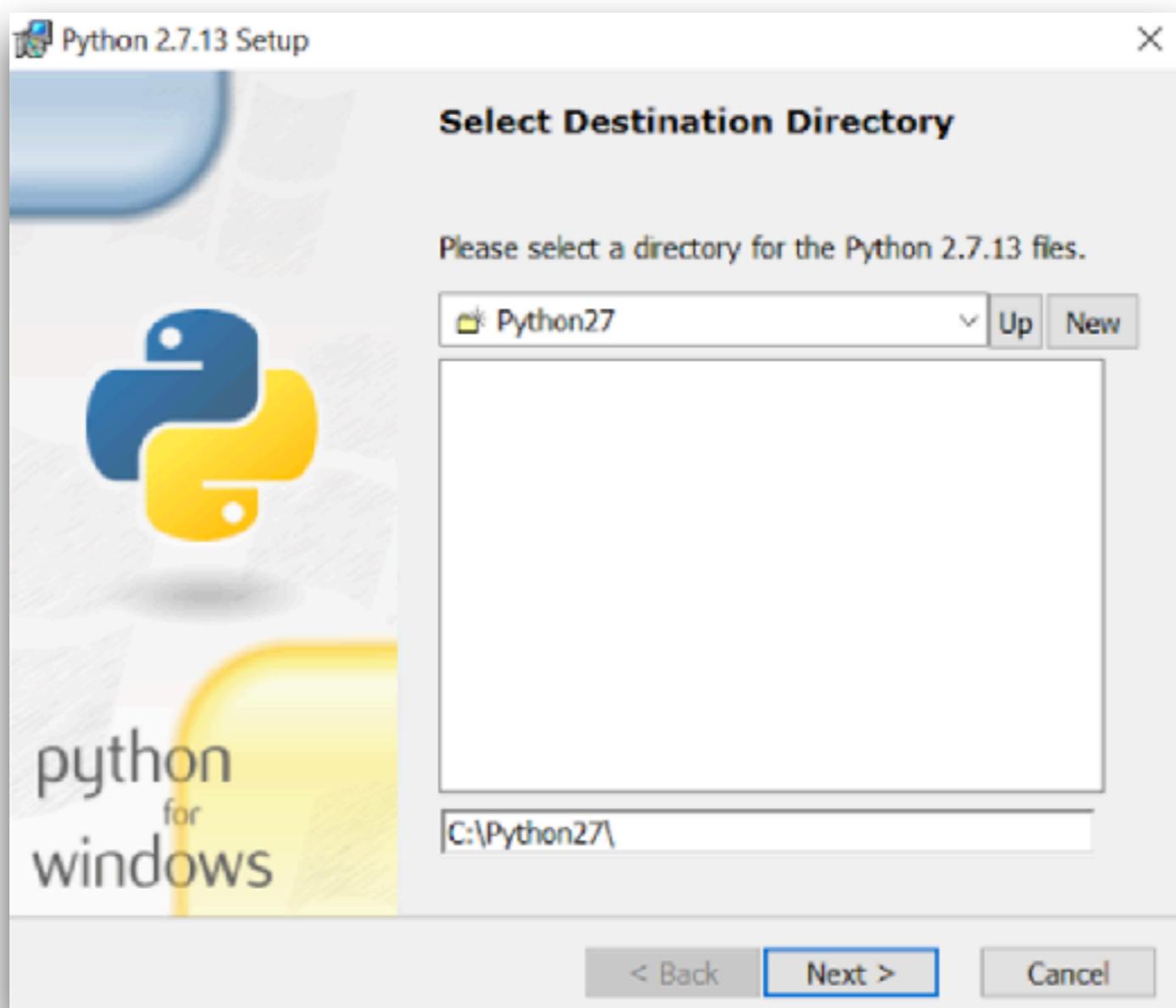
The screenshot shows the Python.org homepage. At the top, there is a navigation bar with links for About, Downloads, Documentation, Community, Success Stories, News, and Events. The 'Downloads' link is highlighted with a red circle. To its right is a search bar with a magnifying glass icon and a 'GO' button. Further to the right are links for Socialize and Sign In. Below the navigation bar, there is a sidebar on the left with a code snippet and links for All releases, Source code, Windows, Mac OS X, Other Platforms, License, and Alternative Implementations. The main content area features a large red circle highlighting the 'Download for Mac OS X' section. This section includes links for Python 3.6.0 and Python 2.7.13. Below these links, it says: 'Not the OS you are looking for? Python can be used on many operating systems and environments.' and 'View the full list of downloads.' At the bottom of the page, there is a promotional message: 'Python is a programming language that lets you work quickly and integrate systems more effectively. [» Learn More](#)'.



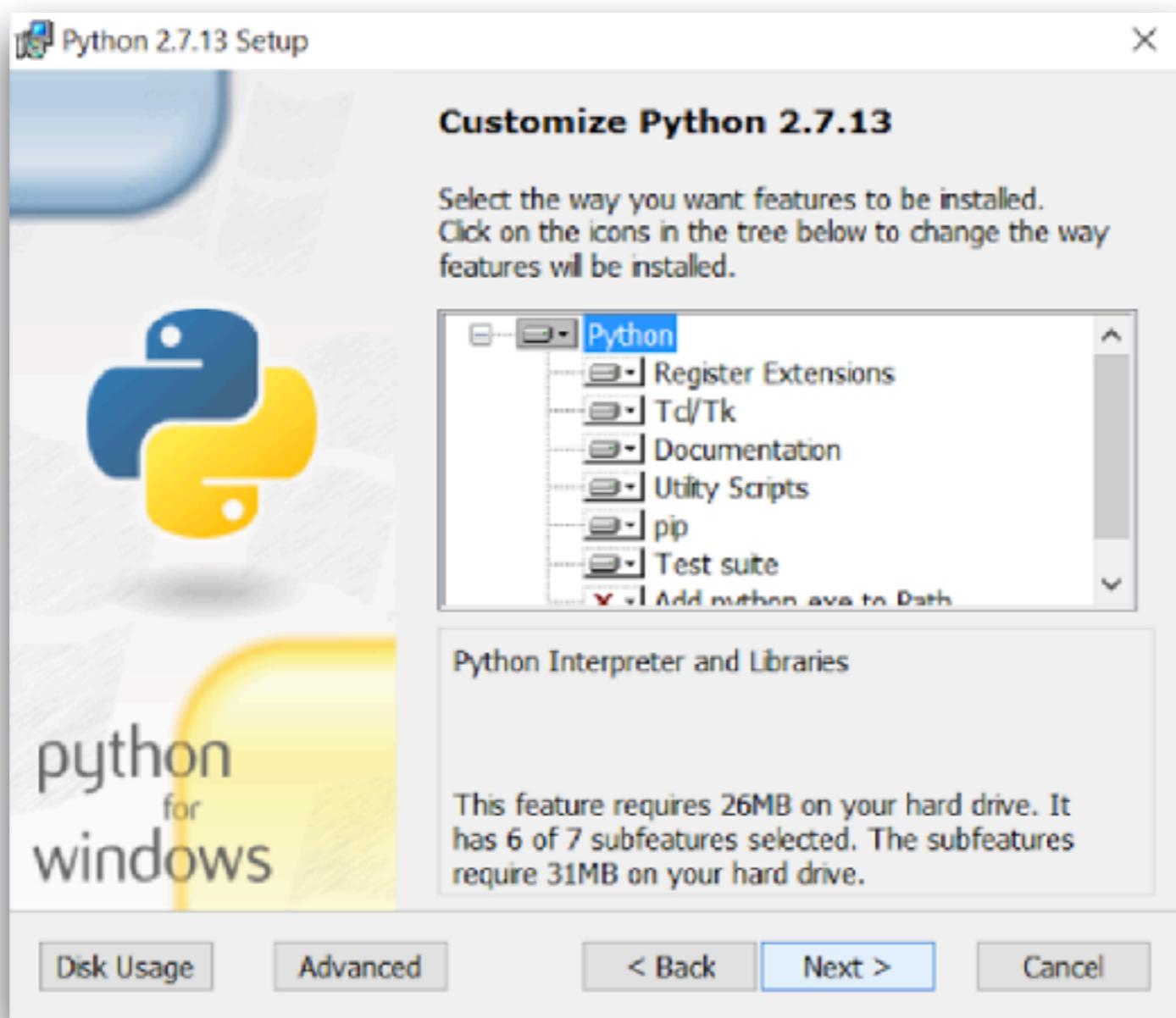
Install Python 2.7.13



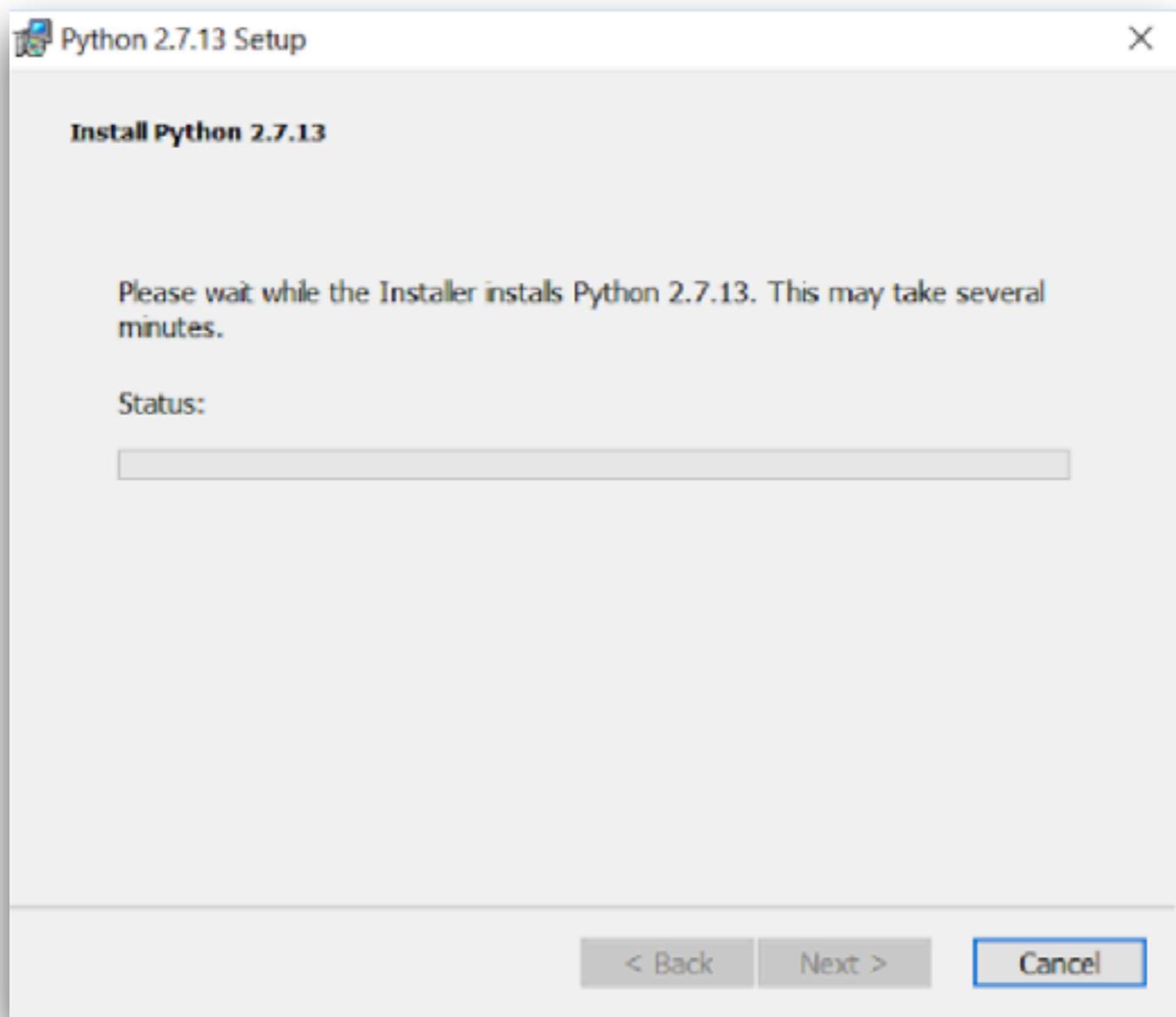
Install Python 2.7.13



Install Python 2.7.13



Install Python 2.7.13



Install Python 2.7.13



Run python in command line

\$python

```
Command Prompt

C:\Users\SCK>python
'python' is not recognized as an internal or external command,
operable program or batch file.
```



Run pip in command line

\$pip

```
Command Prompt

C:\Users\SCK>pip
'pip' is not recognized as an internal or external command,
operable program or batch file.
```



Configuration in command line

```
$set PYTHON_HOME=c:\python27
```

```
$set PATH=.;%PYTHON_HOME%;%PYTHON_HOME%\Scripts;%PATH%
```



Run python in command line

\$python

```
Command Prompt

C:\Users\SCK>python
Python 2.7.13 (v2.7.13:a06454b1afa1, Dec 17 2016, 20:42:59)
n win32
Type "help", "copyright", "credits" or "license" for more i
>>> exit()
```



Run pip in command line

\$pip

```
Command Prompt

C:\Users\SCK>pip

Usage:
  pip <command> [options]

Commands:
  install                         Install packages.
  download                        Download packages.
  uninstall                       Uninstall packages.
  freeze                          Output installed packages.
  list                            List installed packages.
  show                            Show information about packages.
  check                           Verify installed packages.
  search                          Search PyPI for packages.
```



Permanent configuration



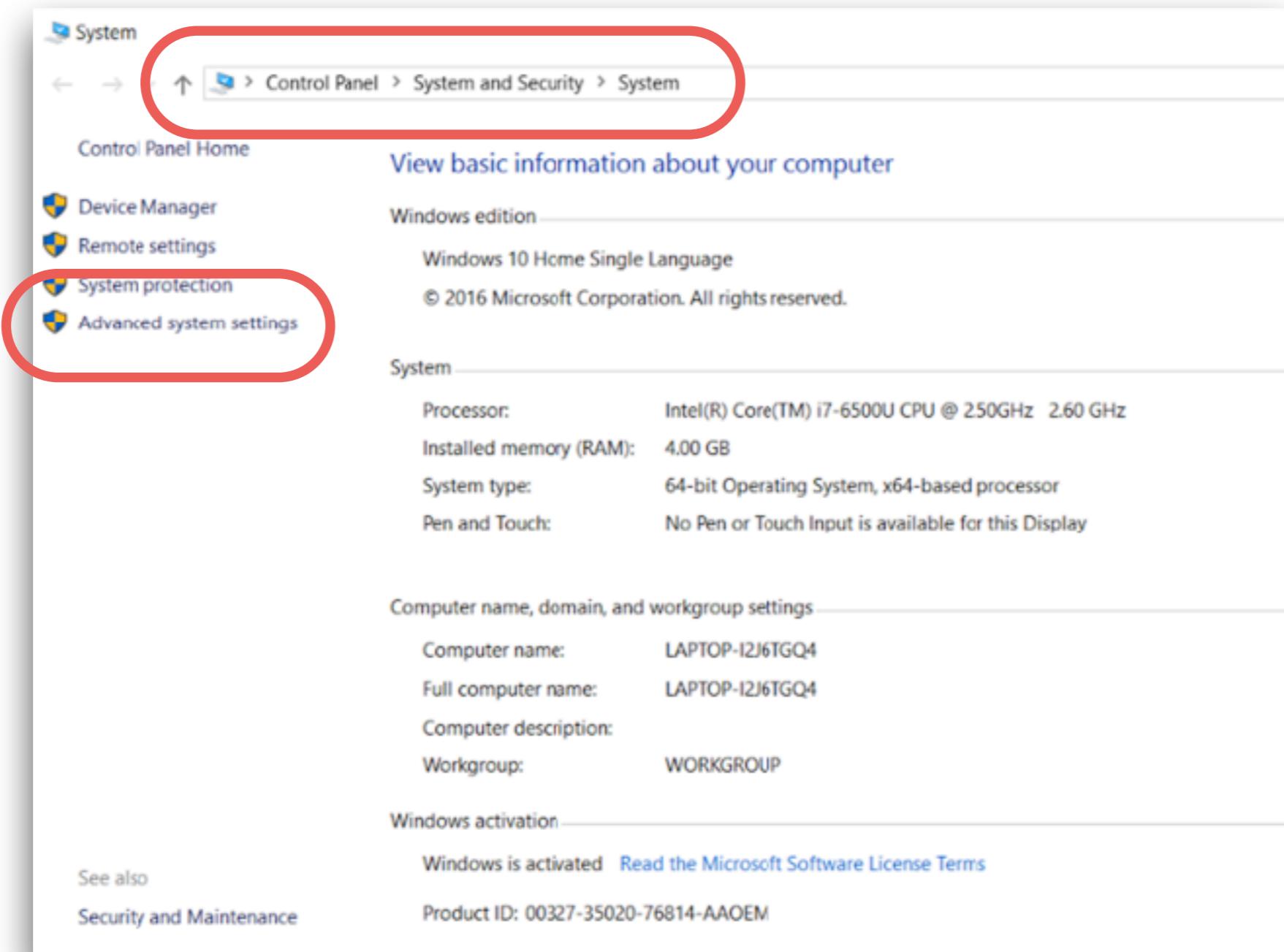
Configuration

Go to Control Panel -> System and Security -> System

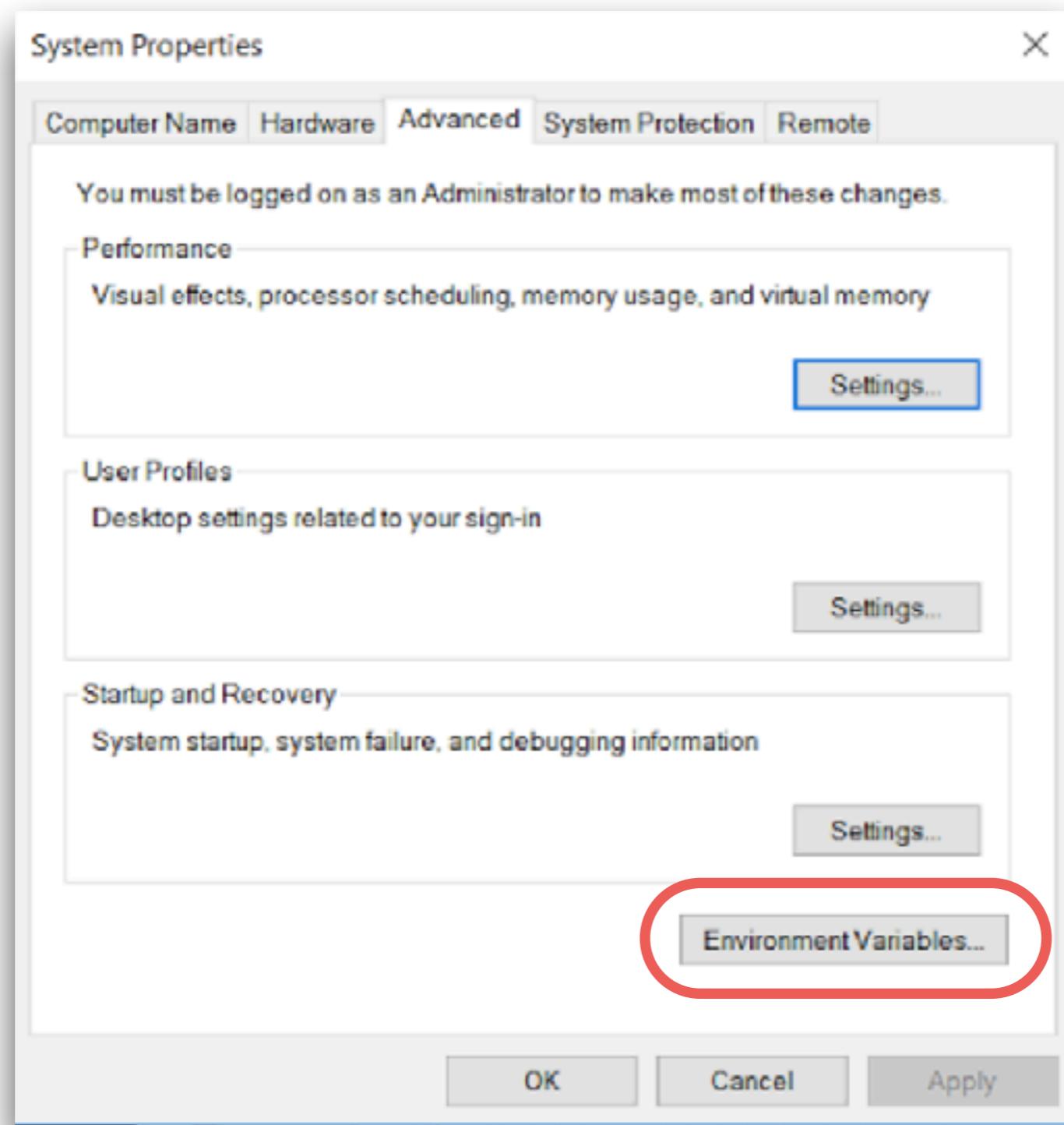
Go to Advanced system settings



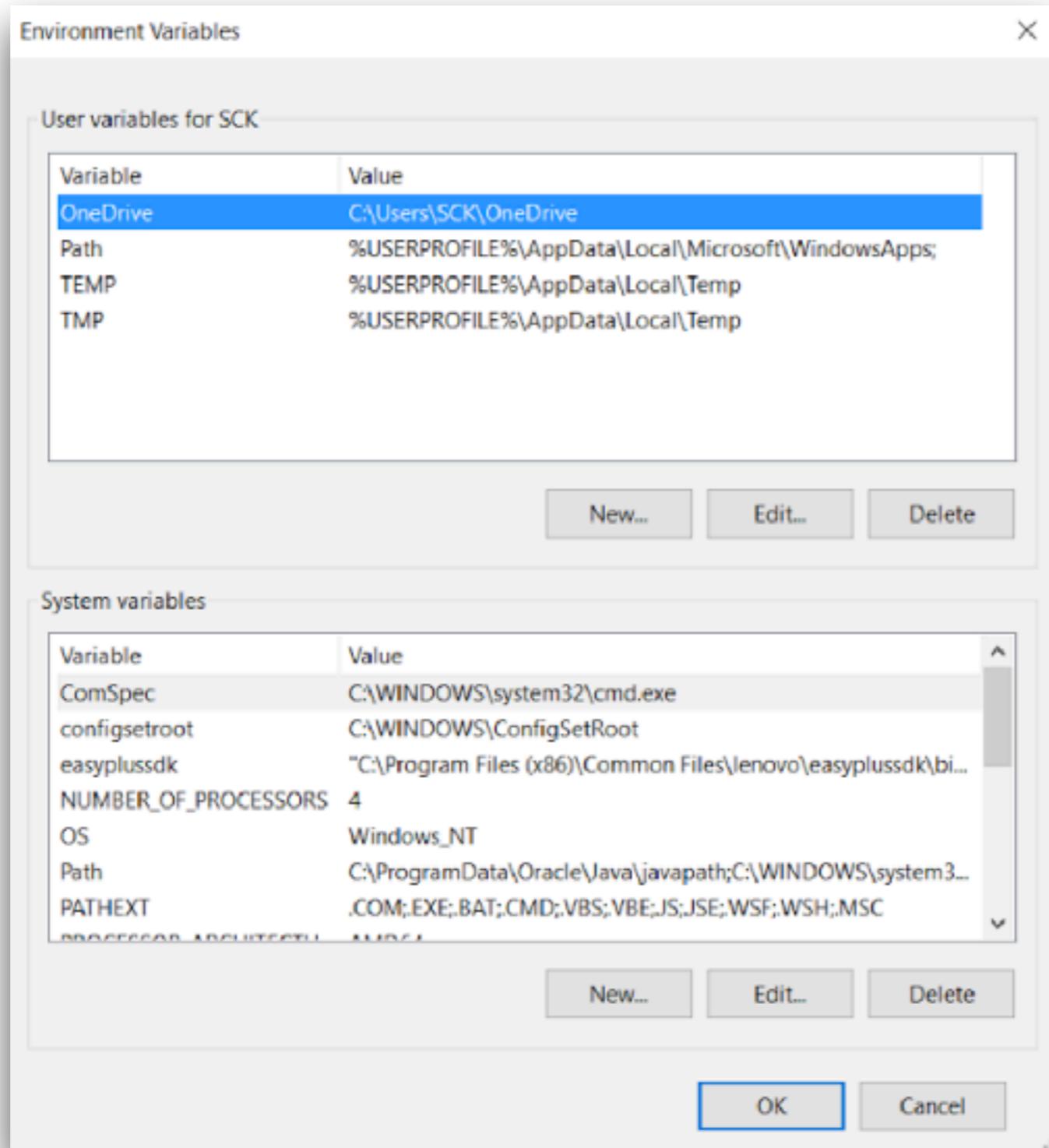
Configuration



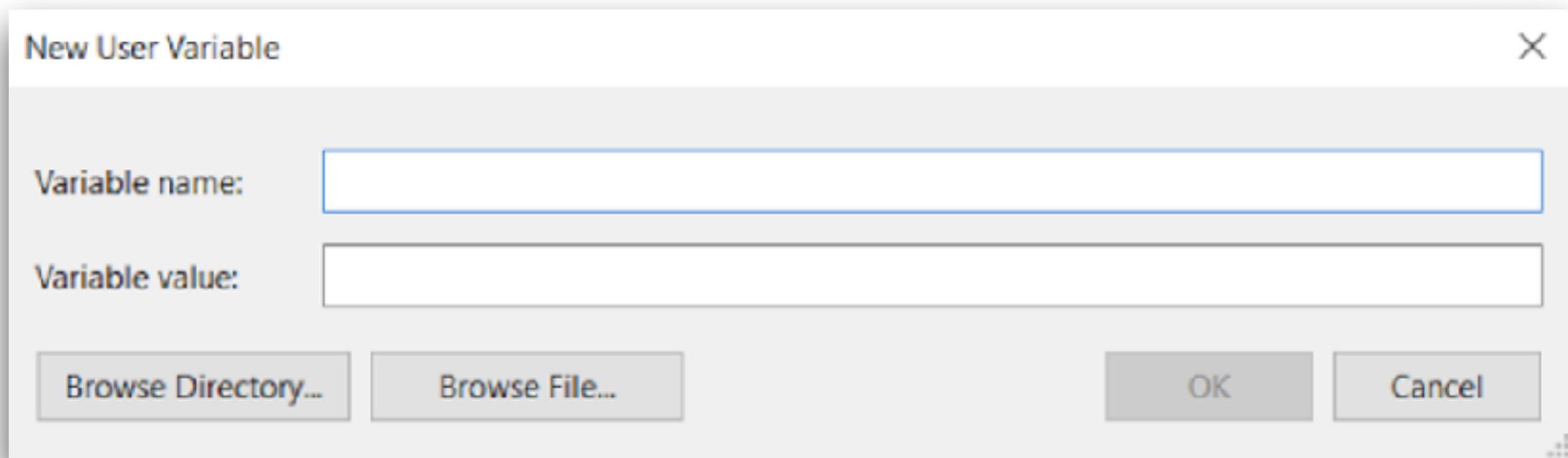
Configuration



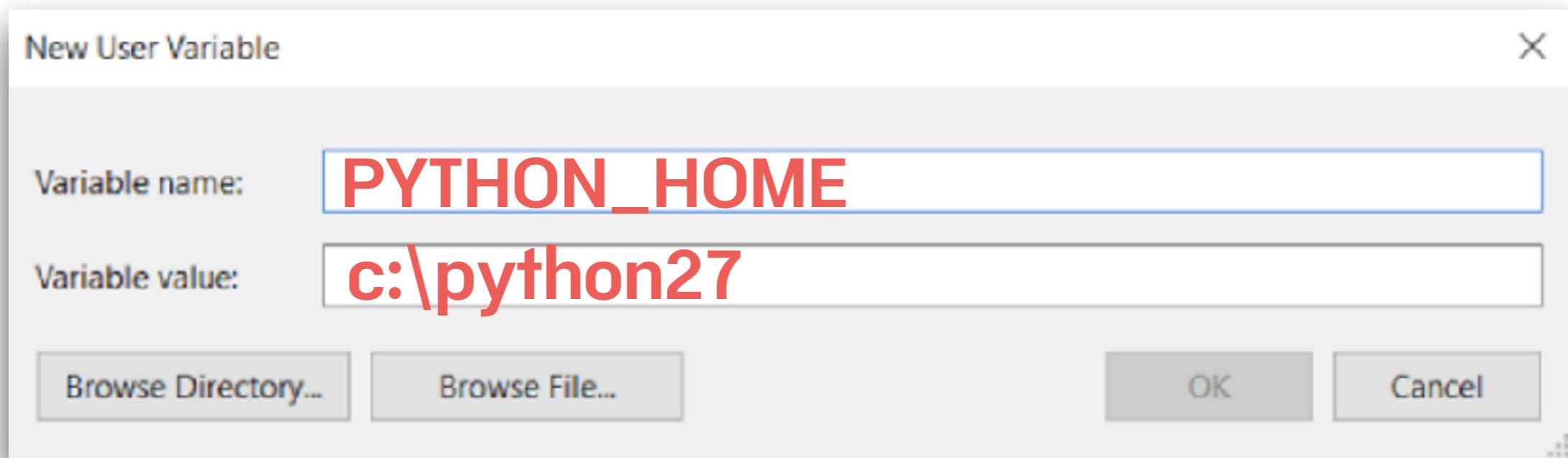
Configuration



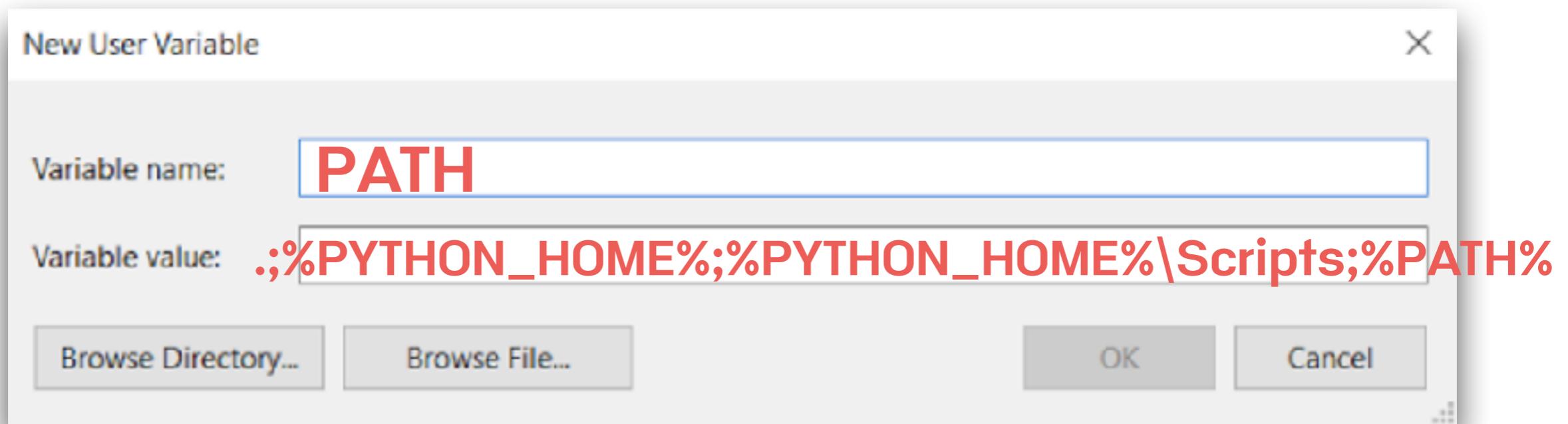
Configuration



Configuration PYTHON_HOME



Configuration PATH



For MacOs



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Install

```
$easy_install pip
```



Install

```
$brew install robot-framework
```



Install Robot Framework



Install Robot Framework

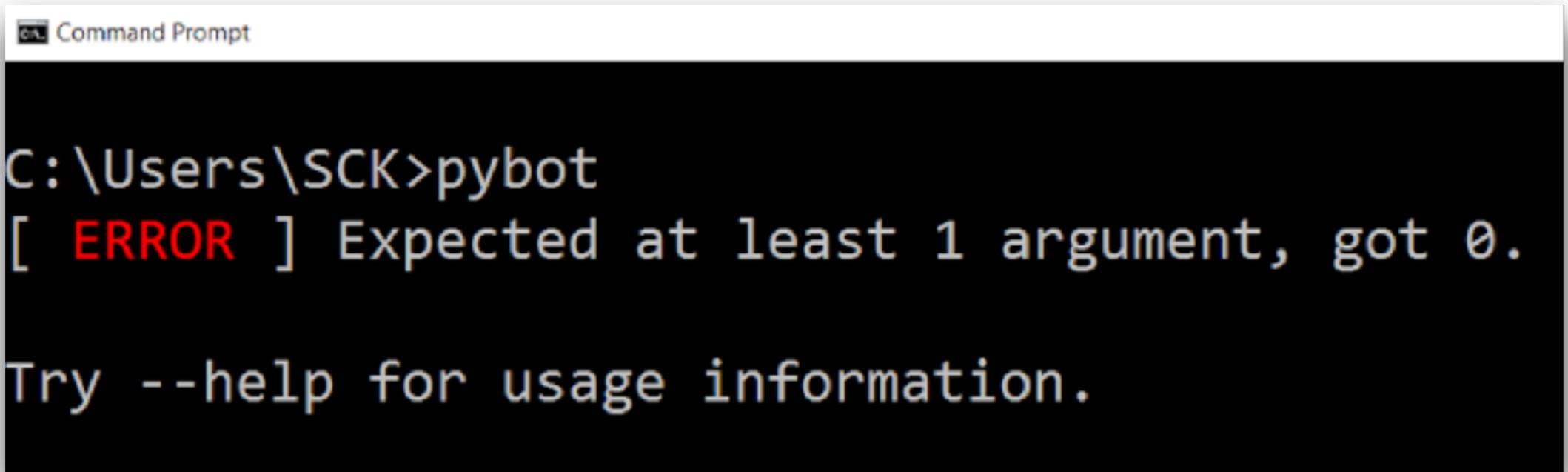
\$pip install robotframework

```
Command Prompt  
C:\Users\SCK>pip install robotframework  
Collecting robotframework  
  Downloading robotframework-3.0.2.tar.gz (440kB)  
    100% |#####| 450kB 656kB/s  
Installing collected packages: robotframework  
  Running setup.py install for robotframework ... done  
Successfully installed robotframework-3.0.2
```



Check Robot Framework

\$pybot



```
Command Prompt

C:\Users\SCK>pybot
[ ERROR ] Expected at least 1 argument, got 0.

Try --help for usage information.
```



Install Robot Framework Library

\$pip install robotframework-selenium2library

```
C:\Users\SCK>pip install robotframework-selenium2library
Collecting robotframework-selenium2library
  Downloading robotframework-selenium2library-1.8.0.tar.gz
    100% |#####| #####| #####| #####| 122kB 547kB/s
Collecting decorator>=3.3.2 (from robotframework-selenium2l
  Downloading decorator-4.0.11-py2.py3-none-any.whl
Collecting selenium>=2.32.0 (from robotframework-selenium2l
  Downloading selenium-3.0.2-py2.py3-none-any.whl (915kB)
    100% |#####| #####| #####| #####| 921kB 437kB/s
Requirement already satisfied: robotframework>=2.6.0 in c:\u
om robotframework-selenium2library)
Installing collected packages: decorator, selenium, robotfr
  Running setup.py install for robotframework-selenium2libr
Successfully installed decorator-4.0.11 robotframework-sele
0.2
```



Install IDE and Editor



IDE and Editor



Sublime Text

Let's start to coding



Test structure

```
test_000.txt      *
1 *** Settings ***
2
3
4 *** Variables ***
5
6
7 *** Testcases ***
8
9
10 *** Keyword ***
```



Settings

Alias Name => Setting, Settings, Metadata

Define metadata for test suites and test cases

Import test libraries

Resource files



Variables

Alias Name => Variable, Variables



Test cases

Alias Name => Testcases, Test Case, Test Cases

Create test cases from keywords



Keywords

Alias Name => Keyword, Keywords, User Keyword,
User Keywords

Create user keywords from existing low-level keyword



Hello with google



Selenium2Library

