

# Testing Techniques

**BY ŁUKASZ WARCHOŁ  
@WARCHOLUKE**

**LEAD BY  
@ALEKZUBALA & @MACIEJOCZKO**

# PLAN

- ▶ What are test types?
- ▶ How to use them?
- ▶ Practice

# **UNIT TEST LIFE CYCLE**



**ARRANGE**  
**ACT**  
**ASSERT**

# UNIT TEST TYPES

# RETURN VALUE STATE INTERACTION

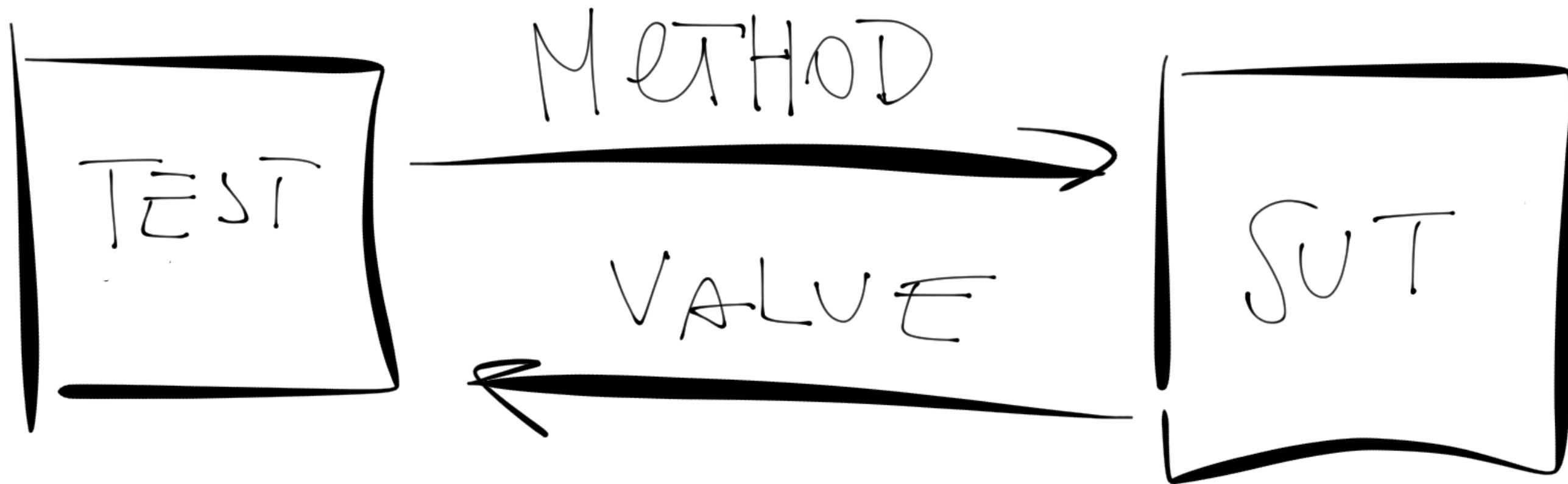


# Hands On

#TDDWroclaw

# RETURN VALUE TEST

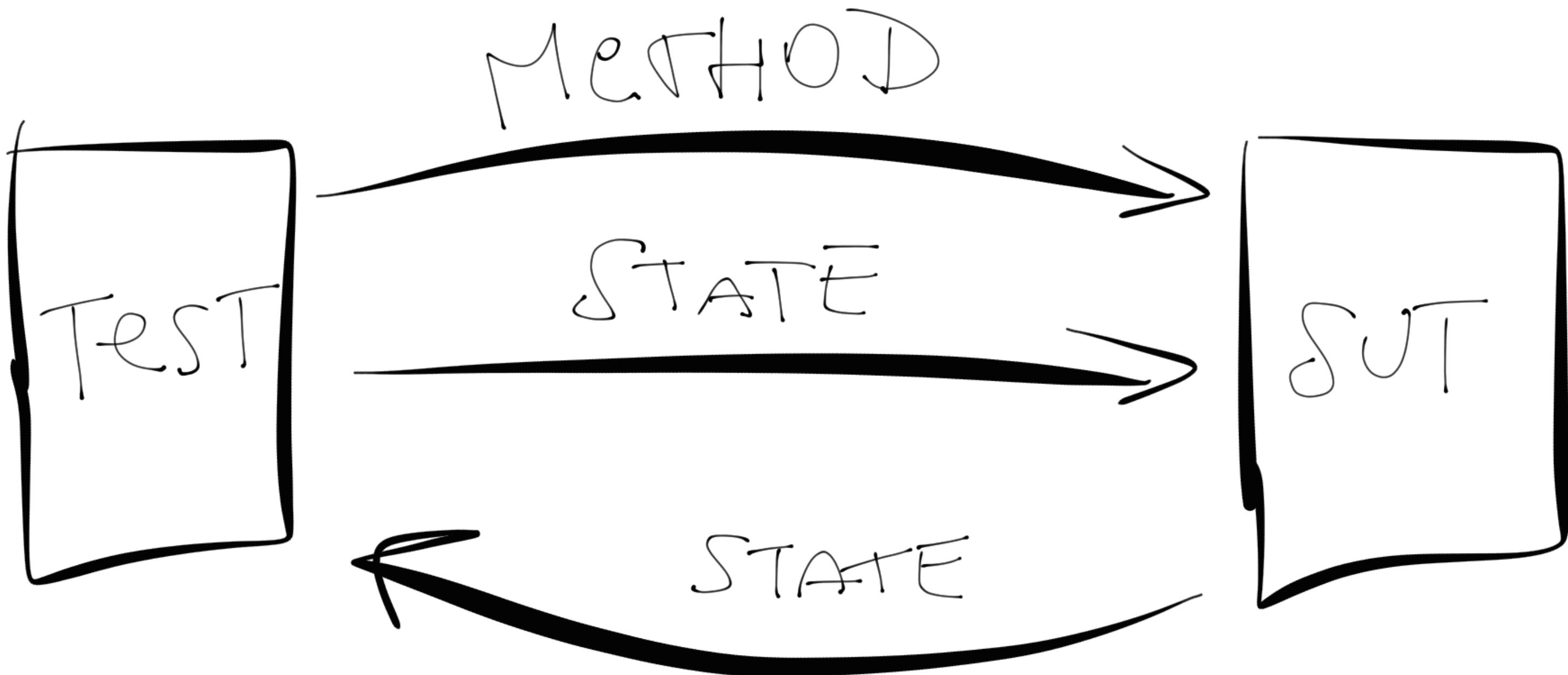
- ▶ *Arrange* - setup object
- ▶ *Act* - call method under test
- ▶ *Assert* - compare returned value with expectations



**SYSTEM UNDER TEST**

# STATE TEST

- ▶ *Arrange* - setup object
- ▶ *Act* - call method under test
- ▶ *Assert* - compare object's state with expectations



# INTERACTION TEST

- ▶ *Arrange* - setup object
- ▶ *Act* - call method under test
- ▶ *Simulate* - simulate behaviour
- ▶ *Assert* - verify integration

TABLE

ORDER

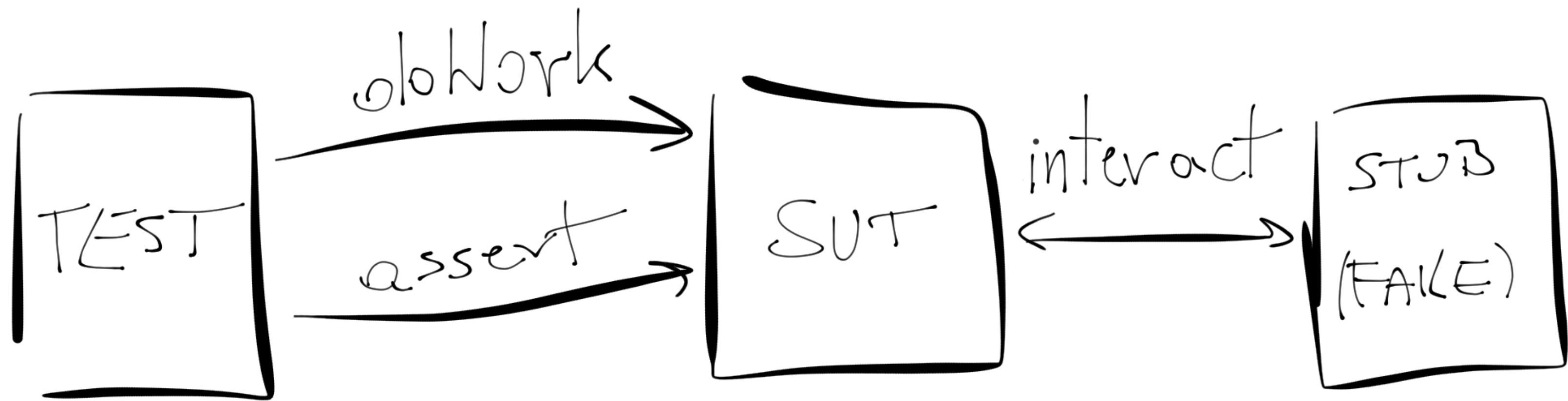
WAITER

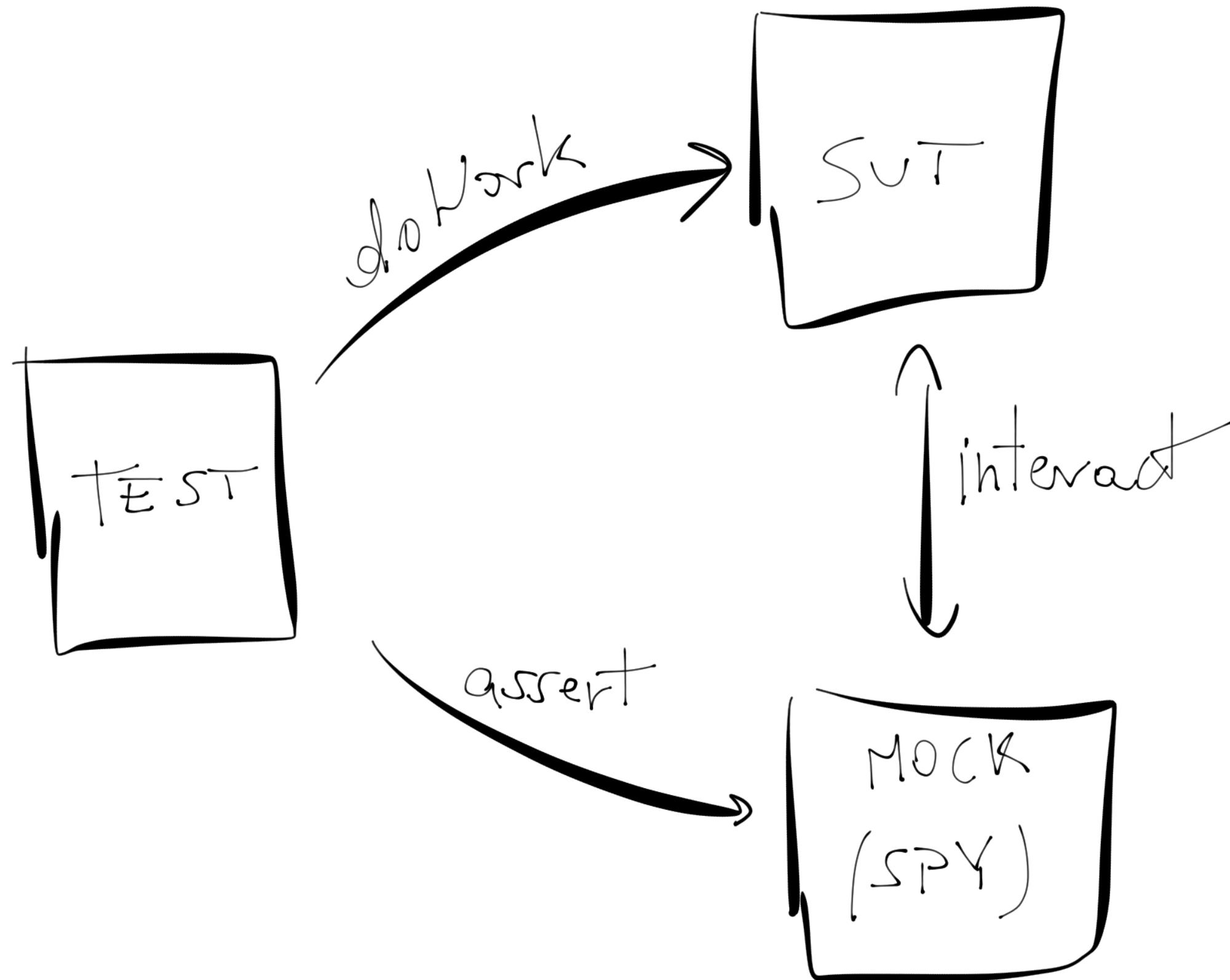
FAKE COOK

— — —  
GET DISH  
Cook

# TEST DOUBLES

- ▶ *Mock* - verify if SUT uses dependency correctly
- ▶ *Spy* - indirect access to SUT output
- ▶ *Stub* - indirect input to SUT
- ▶ *Fake* - simulated, lighter implementation





*Mocks Aren't Stubs*  
– Martin Fowler



# Hands On

#TDDWroclaw

# RECAP

- ▶ 3 A's
- ▶ 3 test types
- ▶ 4 test doubles

*Thanks!*

# IMAGES ATTRIBUTION

James Wang <https://flic.kr/p/6CEppW>

Jason Devaun <https://flic.kr/p/7NCUci>

Martin Fisch <https://flic.kr/p/o4Hice>

Ramunas Geciauskas <https://flic.kr/p/7Cv2gu>