

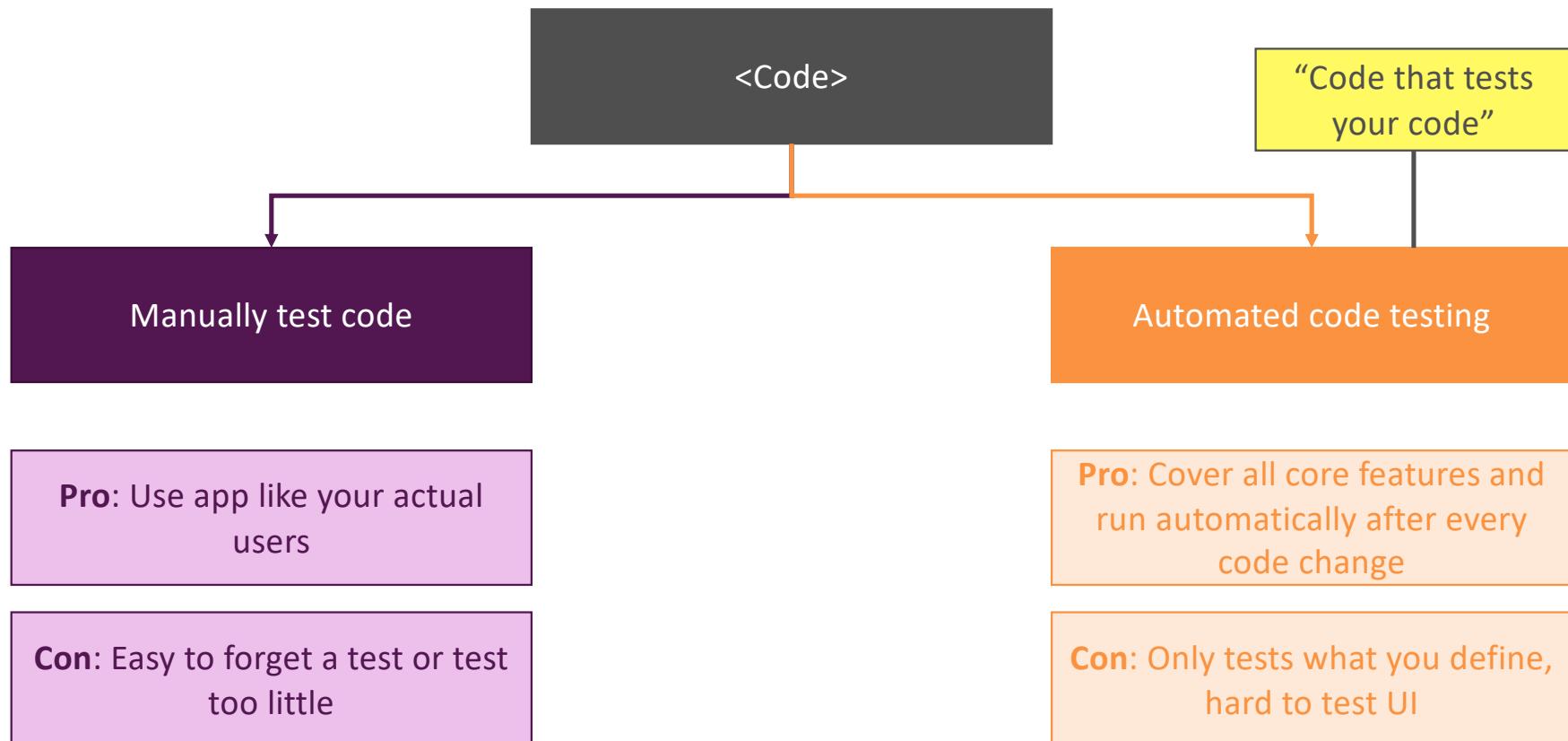


# Testing

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Automated Code Tests

# What is “Testing”?



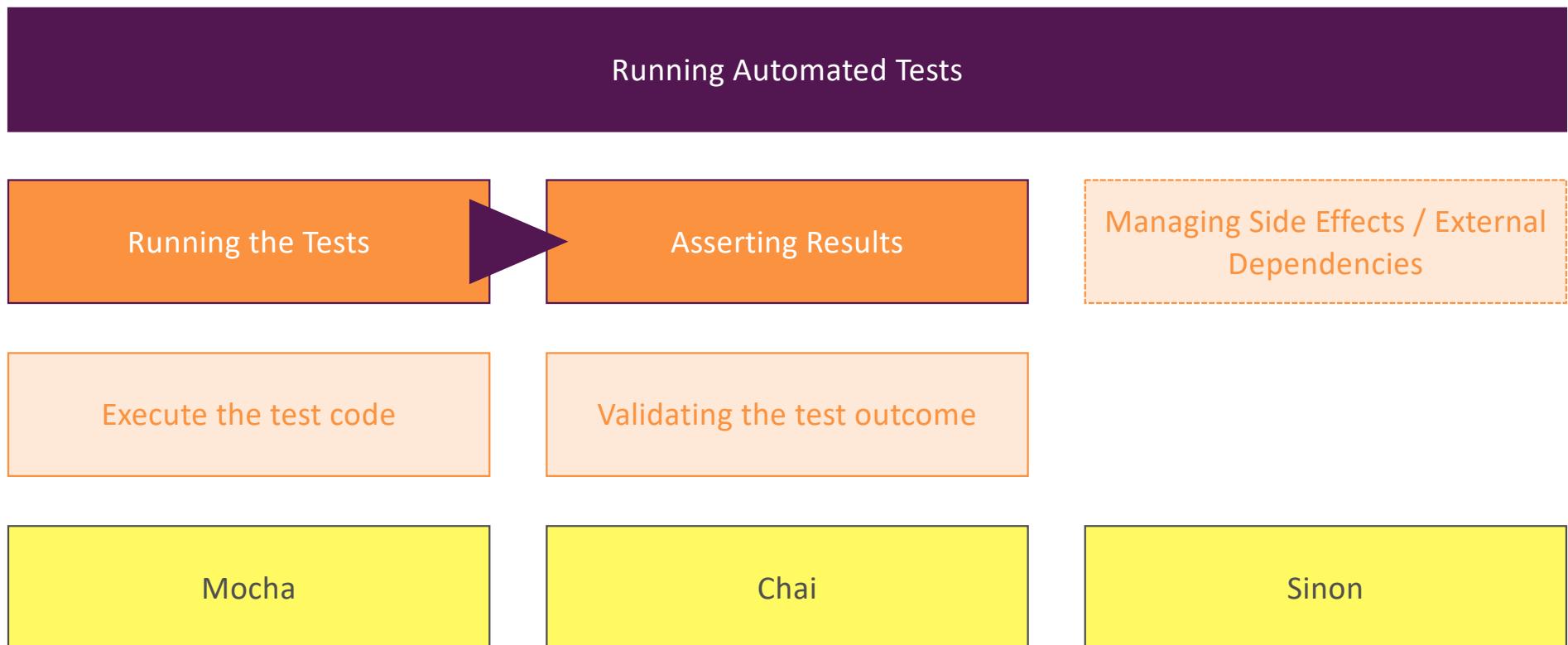
## Why “Testing”?

Automatically test everything\*  
after every code adjustment

Easily detect breaking changes  
(even in the places you didn't  
expect)

Ensure predictable and clearly  
defined testing steps

# Testing Tools & Setup



# Testing the Hard Stuff

## Asynchronous Code

Test code could finish too early  
(before async code is done)

Example: Hash password

Testing libraries provide simple  
syntax to avoid early completion

## Side Effects (File access, database access)

Real data is written

Example: Write to file or  
database

Testing database and/ or stubs,  
mocks

## Third-Party Code

Tested code can become too  
complex with too many  
dependencies

Example: JWT verification needs  
a real valid token

Stubs, mocks

# What Should You Test?

Test your code!

Try to cover important features and possible error sources

Not external packages/ modules!

It's the job of the library authors to test it

Don't test too much at once!

Split your functions to write more concise tests