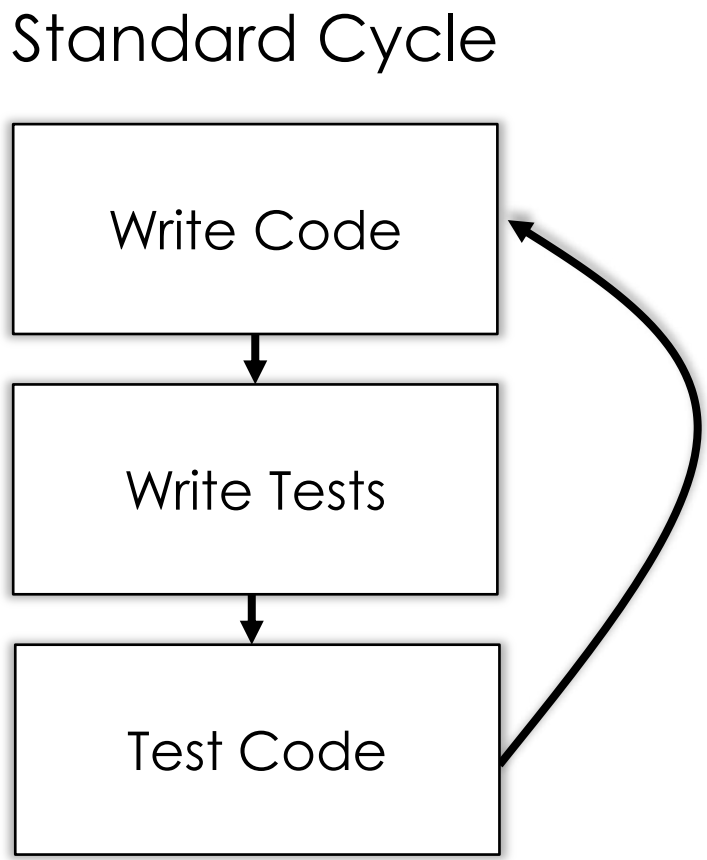
Testing Practices

By the end of this video you will be able to…

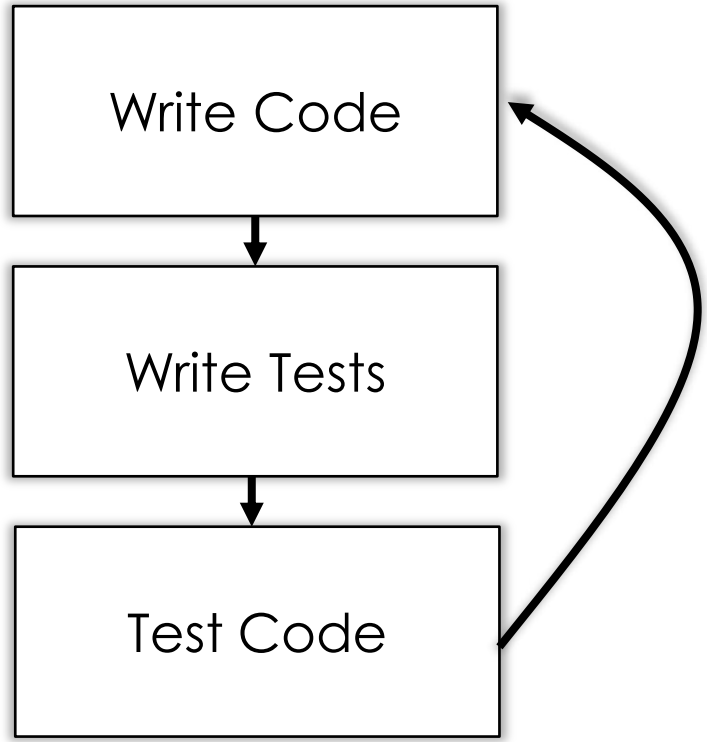
- Describe different testing practices
- Compare advantages in testing methodologies

Standard Development



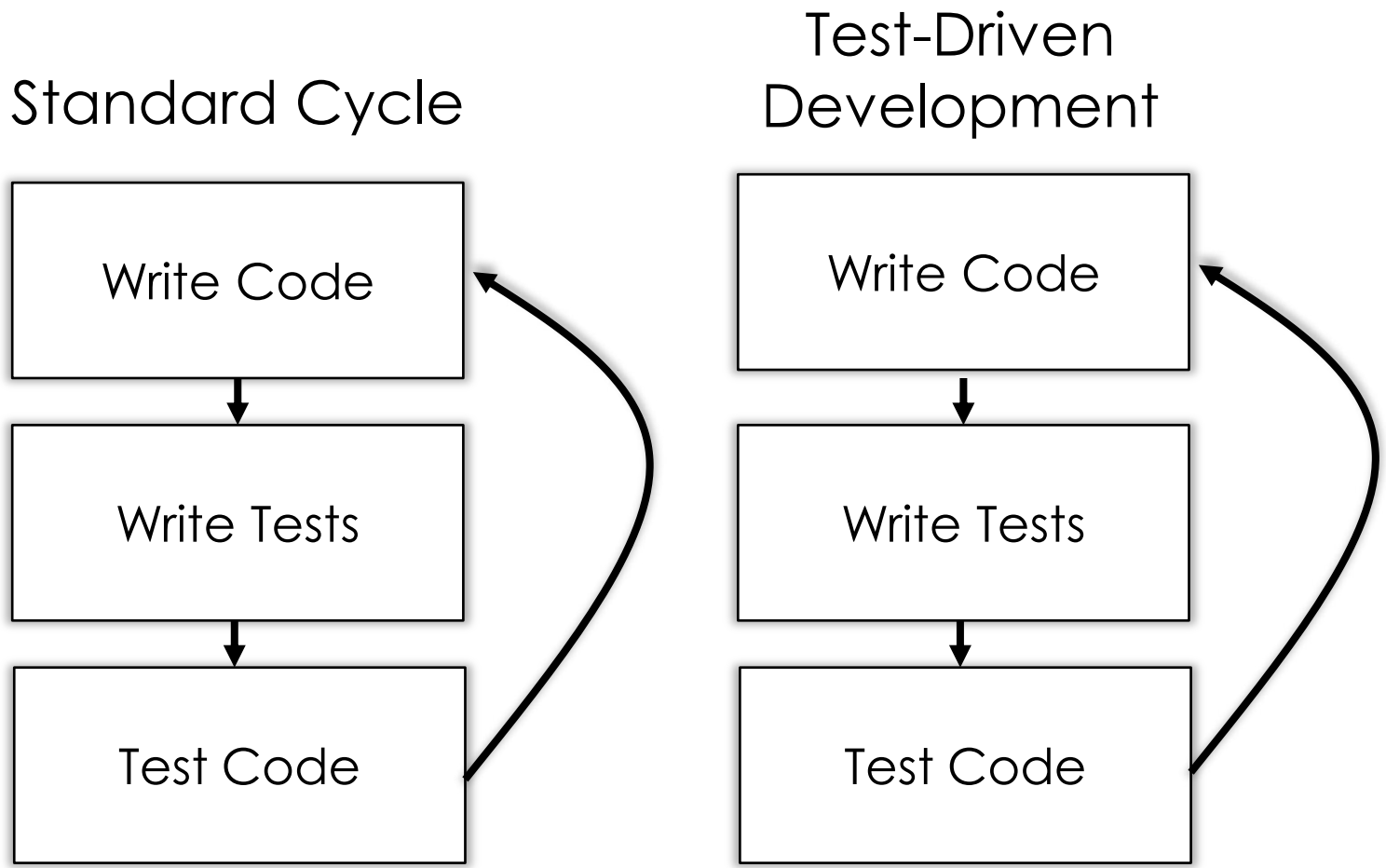
Standard Development

Standard Cycle

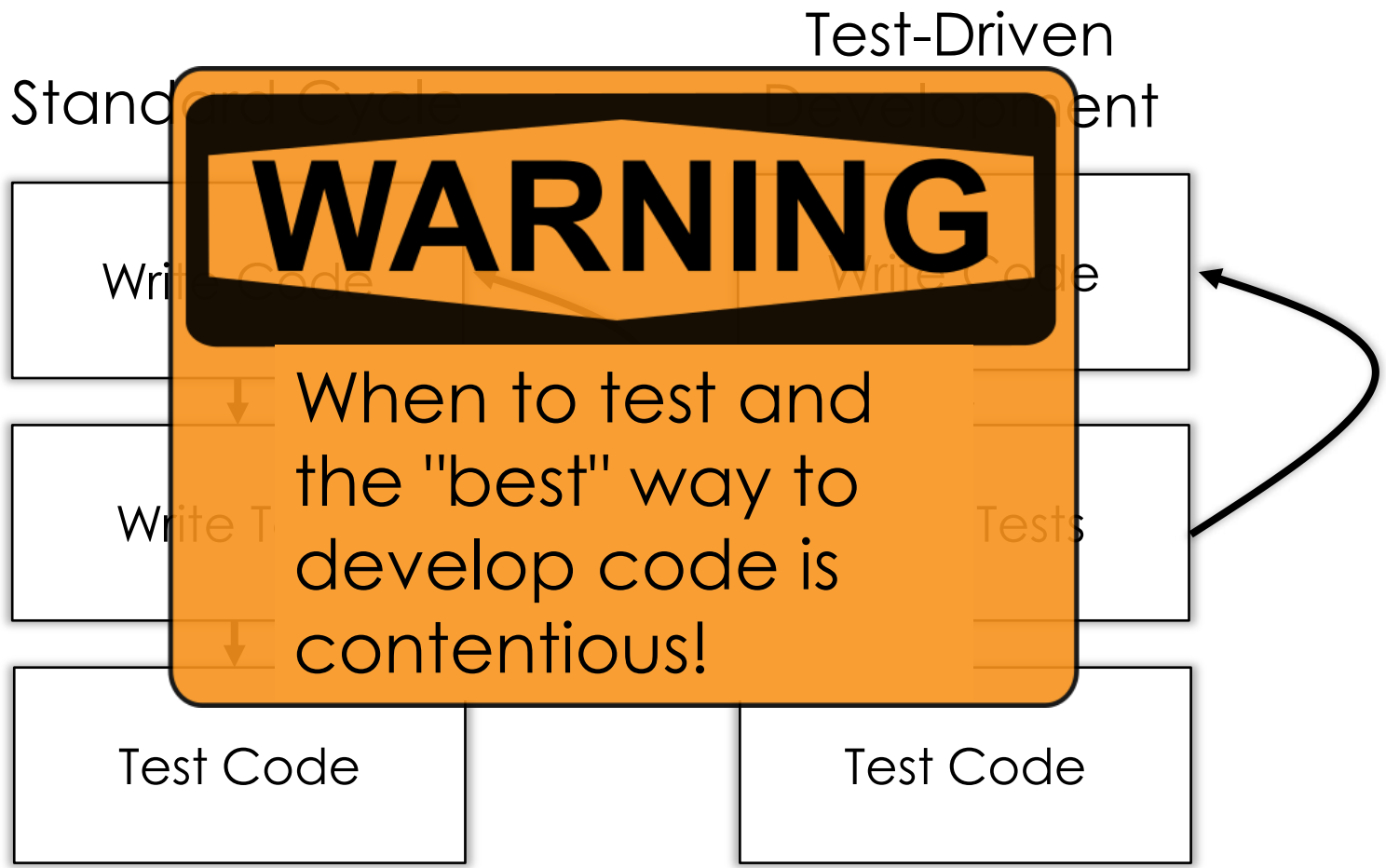


How can you write code if you don't know how it will be tested?

Test Driven Development



Test Driven Development



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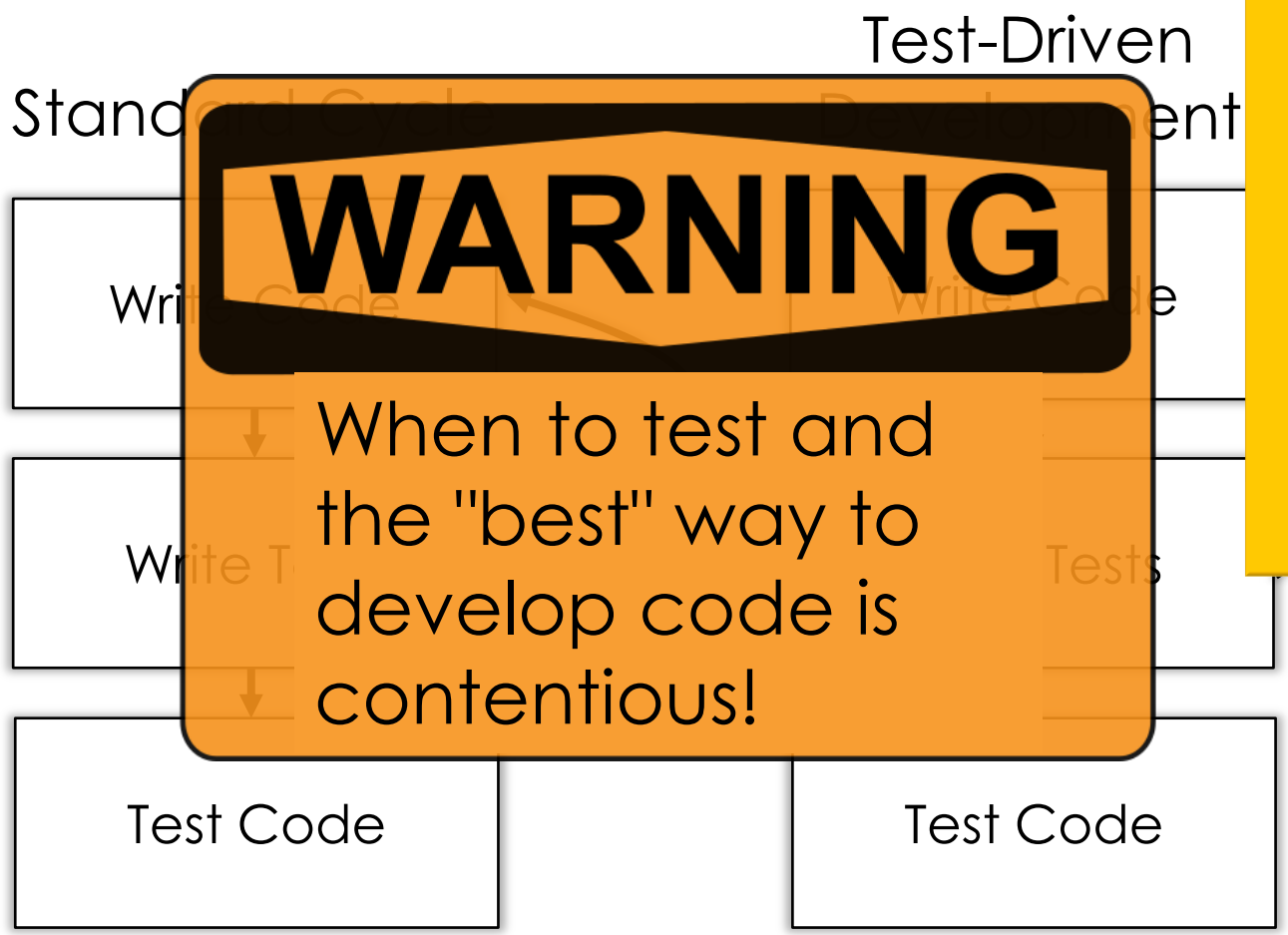


WARNING

When to test and the "best" way to develop code is contentious!

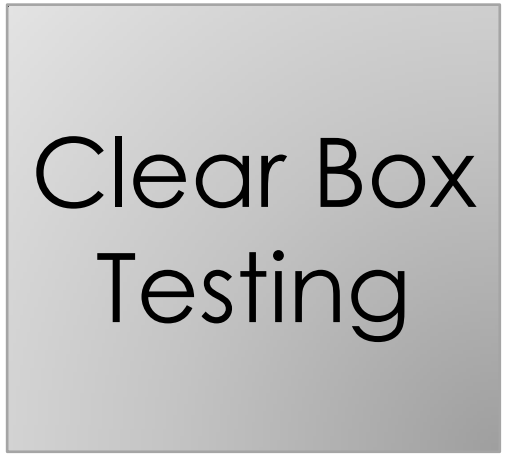
Nearly everyone agrees, don't wait till the end to test!

Two Testing Styles

Black Box Testing

Only tests through the interface

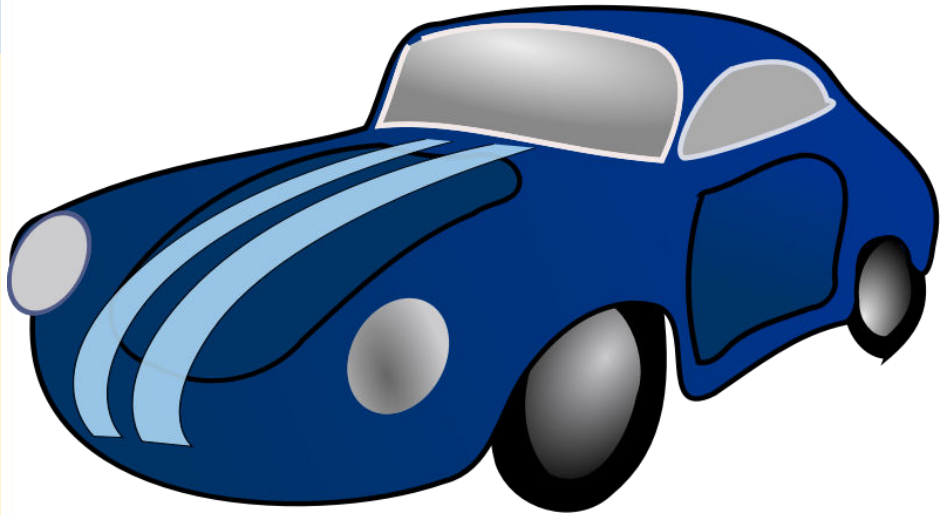
Two Testing Styles



Only tests through the interface

Tests which know about the implementation

Testing Styles:
Two sides of abstraction barrier



Abstraction Barrier
sets the rules of interaction

Test Interface:
Black Box

Test Implementation:
Clear-Box

Both have advantages

Black Box Testing

Clear Box Testing

Which of the following are advantages for black box testing <select all>?

A. **Is often more representative of user use of code**
B. **Is easier to write by someone unfamiliar with the implementation**
C. **Is more knowledgeable of potential corner cases which might cause incorrect behavior**

Both have advantages

Black Box Testing

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Black Box Testing

Clear Box Testing

Okay, so what do we test?

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So, what do we test?

Should I test every statement, like this?

```
int a = 5;
if( a != 5 ) { System.exit(0); }
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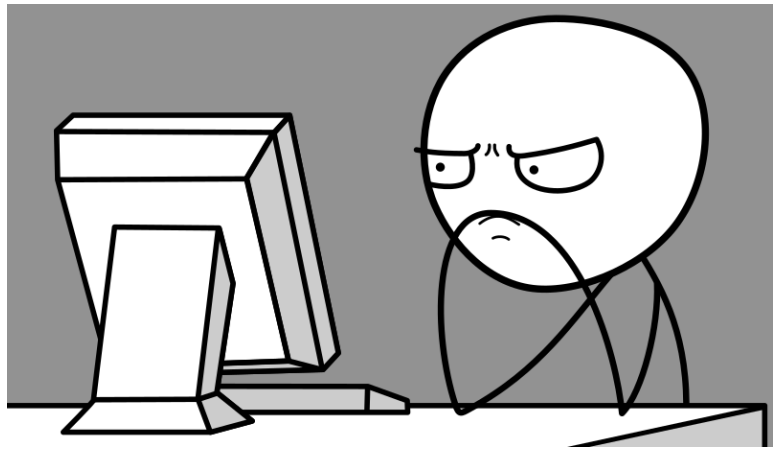
Way too fine-grain…

So, what do we test?

Okay, so should I wait for user alpha testing?



Users

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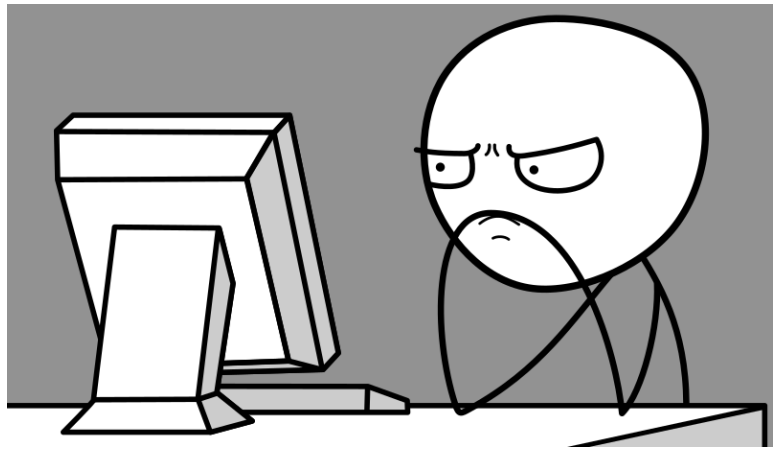

Users

Way too late!!!

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Okay, so what should I test?

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Usually – methods.

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Usually – methods.

Unit Testing!

So, how do we test?

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http://junit.org/

So, how do we test?

Allows us to write and run unit tests.

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More on JUnit in Eclipse in the Support Video