CSE306 Software Quality in Practice

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EXP reminders

EXP 1 - due Friday 03/15 by 5:00 PM.

No on-going assignment during break.

EXP 2 - assigned after spring break.

ROADMAP

Wednesday: lecture

- process review
- interactive classroom exercise
  - put process into practice: develop code

Thursday: lab

- individual lab exercise
  - put process into practice: develop code

Monday: lecture

- interactive classroom exercise - continued
  - put process into practice: develop code

Tuesday: lab

- individual lab exercise
  - put process into practice: develop code

Things to focus on

Understand requirements

Use code repository

Opaque test first (TDD)

Transparent test implementation using coverage tool (gcov)

LEX12 feedback

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Use code repository

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Transparent test implementation using coverage tool (gcov)

"Transparent testing seems more complete than testing before implementation."

Understand requirements

Use code repository

Opaque test first (TDD)

Transparent test implementation using coverage tool (gcov)

"Transparent testing seems more complete than testing before implementation."

They serve different purposes:
Opaque testing reflects requirements.
Transparent testing reflects implementation.

If you decide to change your implementation, your transparent tests are likely to change (the structure of the code has changed, so tests need to update to maintain coverage).

Your opaque tests should not (the required functionality has not changed).

http://softwaretestingfundamentals.com/differences-between-black-box-testing-and-white-box-testing/

Problem

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Probably not, but why?

We are in different time zones!

Buffalo is in UTC-5 and Uppsala is in UTC+1.

https://en.wikipedia.org/wiki/Coordinated_Universal_Time

Problem

Given two cities, determine the time difference between the two.

Example: What is the time difference between Buffalo and Seattle?

What do you need to know to answer this question?

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Buffalo is UTC-5.
Seattle is UTC-8. 7:00 PM in Buffalo = 4:00 PM in Seattle.

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Problem

Given two cities, determine the time difference between the two.

Example: What is the time difference between Buffalo and Phoenix?

Buffalo is UTC-5.
Seattle is UTC-8. 7:00 PM in Buffalo = 4:00 PM in Seattle.
Phoenix is UTC-7. 7:00 PM in Buffalo = ??:?? in Phoenix.

What do you need to know to answer this question?

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That's a typo, right?

What do you need to k n?

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Phoenix is UTC-7. 7:00 PM in Buffalo = 4:00 in Phoenix.

What do you n

Nope. Phoenix does not observe daylight savings time.

Problem

Given two cities, determine the time difference between the two.

Example: What is the time difference between Buffalo and Uppsala?

Buffalo is UTC-5. Uppsala is UTC+1. Both observe daylight saving time.

If it is 7:00 PM in Buffalo, is it midnight in Uppsala.

What do you need to know to answer this question?

Problem

Given two cities, determine the time difference between the two.

Example: What is the time difference between Buffalo and Uppsala?

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What do you nee uestion?

Switch to daylight time happens on different dates.

Understand requirements

Compute the time difference between two locations A and B on a given date/time at A.

Resources:

- https://www.worldtimezone.com/daylight.html
- https://www.worldtimezone.com

Assume there is a lookup table with the following information for a given location (such as A and B):

- timezone offset from UTC
- whether daylight saving (summer) time (DST) is observed
- start date/time of DST
- end date/time of DST

Use Code Repository

How do we start?

Use Code Repository

How do we start?

Accept this assignment:

https://classroom.github.com/a/WOSRVB8g

Work in small groups (size 1-5, either those around you or your regular teammates - it doesn't matter).

In local copy, create a new branch to add a 'time' feature, and check out that branch.

Go!

How do we start?

Some work already done in repo so you can hit the ground running.

Apply process, record your process/progress in git.

Let's see what you come up with.