QUICKUNIT

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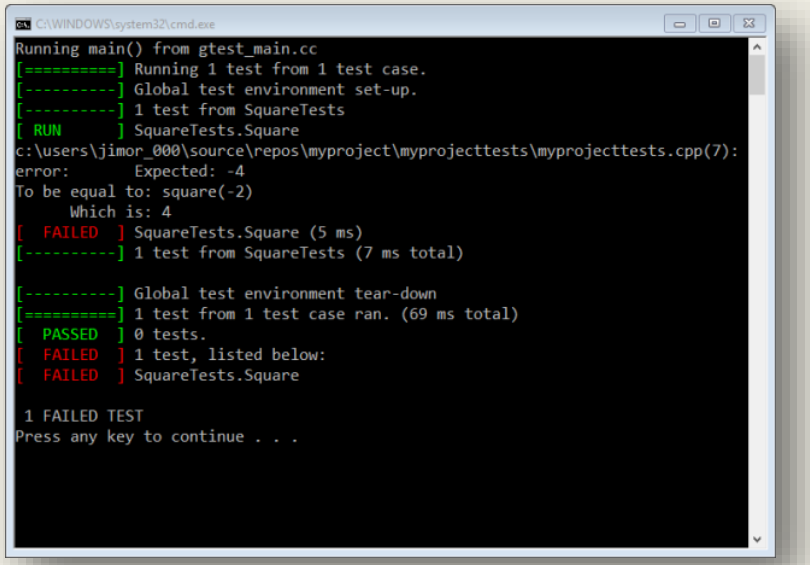
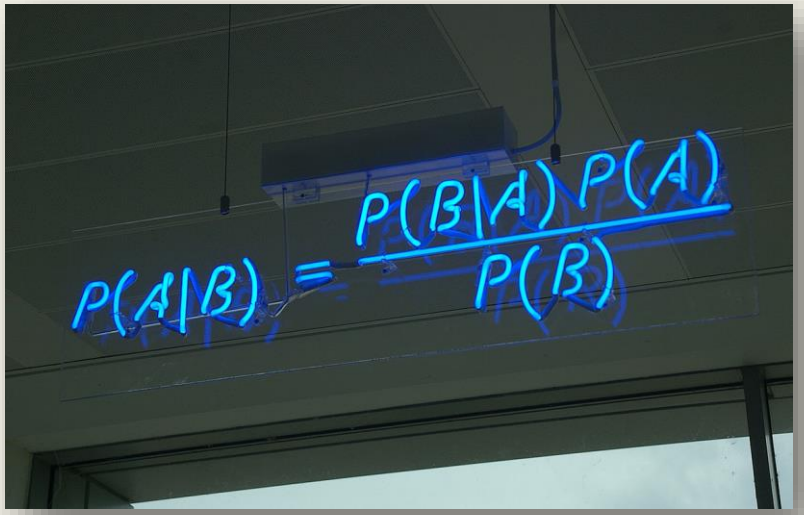
Motivation



- Testing usually entails enormous test sets
  - *Often can take hours, if not days, to run*
  - *Industry relies on testing to ensure quality*
- Tests might fail late, wasting a ton of time
- Tests often fail in tandem with other tests
  - *Many failed tests may overwhelm/confuse developer*
- Static ordering is the main problem
  - *No notion of tests being ordered by probability of failure (most important)*

Approach & Challenges



- Build on top of JUnit
- Order tests based on their likelihood of failure
  - *Combination of prior failure rates*
  - *Account for changes the developer made, based on how similar changes affected tests*
  - *Allows dev to look at important tests first*
- Use Bayesian analysis to rank tests with better order, a test has failed
- Challenges revolve mainly around finding the likelihood of a certain test to fail, given that some other test has failed
  - *May require a machine learning model, or some learning algorithm*