

# Clean Code

## Chpt 3 – Functions

CS342 – Fall 2017

# Functions

- Functions, Methods, Procedures, Subroutines, ...
  - Different Languages /Paradigms use different Names
  - Java uses the term “Methods”
- Design Principle: SMALL!
  - First Rule of Functions:
    - Make them small.
  - Second Rule of Functions:
    - Make them smaller than that!

# Function Design Principles: Small

- Blocks and Indentation
  - One line only OR One Function Call Only
- Do One Thing
  - Functions should do one thing.
  - They should do it well.
  - They should do it only.
  - Graphic in the Text refer to the movie [City Slickers](#)

# Functions Design Principles

- Functions should follow the Single Responsibility Principle
- Functions should follow the Open/Closed Principle
  - Bertrand Meyer, OOP
  - Software Entities should be open for extension, but closed for modification
- Functions should be loosely COUPLED but highly COHESIVE

# Functions Design Principles

- Functions should use descriptive names
- Functions should have less than 3 arguments
- Functions should have no side effects
- Functions should avoid output arguments
- Functions should use Exceptions over Return Error Codes
- Functions should avoid duplication