# Methods and Tools in SW Development

# Homework 5

## Group 1

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**Function Name:** displayItem

**Number of tests:** 7

**Items to test:**

* Successful Display of Item at Index
  + inputs
    - numbers = [“apple”, “banana”, “coconut”]
    - index = 1
  + outputs
    - Check “banana” is printed
* Out of Bound Index
  + inputs
    - numbers = [“apple”]
    - index = 1
  + outputs
    - Check IndexError is raised
* Check Nonnumerical Index
  + Inputs
    - 1
      * numbers = [“apple”, “banana”, “coconut”]
      * index = “index”
    - 2
      * numbers = [“apple”, “banana”, “coconut”]
      * index = []
    - 3
      * numbers = [“apple”, “banana”, “coconut”]
      * index = {}
  + outputs
    - Check TypeError is raised
* Check Nonlist Numbers
  + Inputs
    - 1
      * numbers = “String”
      * index = 0
    - 2
      * numbers = 123
      * index = 0
  + outputs
    - Check TypeError is raised

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 7

**Tests failed:** 0

**Function Name:** dist

**Number of tests:** 5

**Items to test:**

* Successful Distance Calculation
  + Inputs
    - 1
      * Cords\_one = (5, 10)
      * Cords\_two = (10, 10)
    - 2
      * Cords\_one = (5, 10)
      * Cords\_two = (5, 17)
    - 3
      * Cords\_one = (5, 10)
      * Cords\_two = (17, 6.5)
    - 4
      * Cords\_one = (5, 10)
      * Cords\_two = (-2, -5)
  + outputs
    - 1
      * Returns 5
    - 2
      * Returns 7
    - 3
      * Returns 12.5
    - 4
      * Returns 16.55294535724685
* Check for Bad Point Format
  + inputs
    - Cords\_one = (“hello”, “world”)
    - Cords\_two = (“world”, “hello”)
  + outputs
    - Raises TypeError

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 5

**Tests failed:** 0

**Function Name:** divide

**Number of tests:** 7

**Items to test:**

* Successful Division
  + Inputs
    - 1
      * Dividend = 30
      * Divisor = 5
    - 2
      * Dividend = 2
      * Divisor = -1
    - 3
      * Dividend = -20
      * Divisor = -5
    - 4
      * Dividend = 1
      * Divisor = 4
  + outputs
    - 1
      * Print “Your numbers divided is: 6.0”
    - 2
      * Print “Your numbers divided is: -2.0”
    - 3
      * Print “Your numbers divided is: 4.0”
    - 4
      * Print “Your numbers divided is: 0.25”
* Check for Divide by Zero
  + inputs
    - Dividend = 1
    - Divisor = 0
  + outputs
    - Raise ZeroDivisionError
* Division with Floats
  + inputs
    - Dividend = 0.25
    - Divisor = 0.25
  + outputs
    - Print “Your numbers divided is: 1.0”
* Check for Bad Inputs
  + inputs
    - Dividend = “hello”
    - Divisor = 0.25
  + outputs
    - Raises TypeError

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 7

**Tests failed:** 0

**Function Name:** greetUser

**Number of tests:** 4

**Items to test:**

* Successful Greet User
  + inputs
    - 1
      * Name = “Joe Bob Dylan”
    - 2
      * Name = “France Pierre Wright”
  + outputs
    - 1
      * Print “Hello! Welcome … Joe Bob Dylan … you!”
    - 2
      * Print “Hello! Welcome … France Pierre Wright … you!”
* Check for Numbers in String
  + inputs
    - Name = “Leo 5423 Scaper”
  + outputs
    - Raises ValueError
* Check for Non-String Name
  + inputs
    - Name = (123, 456, 7890)
  + outputs
    - Raises TypeError

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 4

**Tests failed:** 0

**Function Name:** isPalindrome

**Number of tests:** 7

**Items to test:**

* Successful Palindrome Classifying
  + inputs
    - 1
      * Word = “racecar”
    - 2
      * Word = “tacocat”
  + outputs
    - 1
      * Return True
    - 2
      * Return True
* Successful Non-Palindrome Classifying
  + inputs
    - 1
      * Word = “word”
    - 2
      * Word = “thisisnotapalindrome”
  + outputs
    - 1
      * Return False
    - 2
      * Return False
* Capitalized Word Classifying
  + inputs
    - 1
      * Word = “RaCEcAr”
    - 2
      * Word = “TaCOcAt”
  + outputs
    - 1
      * Return True
    - 2
      * Return True
* Check for Bad Type
  + inputs
    - Word = 123
  + outputs
    - Raises TypeError

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 7

**Tests failed:** 0

**Function Name:** numbers

**Number of tests:** 7

**Items to test:**

* Successful Numbers
  + Inputs
    - 1
      * Dividend = 30
      * Divisor = 5
    - 2
      * Dividend = 2
      * Divisor = -1
    - 3
      * Dividend = -20
      * Divisor = -5
    - 4
      * Dividend = 1
      * Divisor = 4
  + outputs
    - 1
      * Return 6.0
    - 2
      * Return -2.0
    - 3
      * Return 4.0
    - 4
      * Return 0.25
* Check for Divide by Zero
  + inputs
    - Dividend = 1
    - Divisor = 0
  + outputs
    - Raise ZeroDivisionError
* Division with Floats
  + inputs
    - Dividend = 0.25
    - Divisor = 0.25
  + outputs
    - Return 1.0
* Check for Bad Inputs
  + inputs
    - Dividend = “hello”
    - Divisor = 0.25
  + outputs
    - Raises TypeError

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 7

**Tests failed:** 0

**Function Name:** openFile

**Number of tests:** 5

**Items to test:**

* Successful File Open
  + inputs
    - File = “testing.txt”
  + outputs
    - Print “File opened.”
* Check Nonexistent File
  + inputs
    - File = “nonexistant.txt”
  + outputs
    - Raises FileNotFoundError
* Check Bad File Formats
  + inputs
    - 1
      * File = 123
    - 2
      * File = []
    - 3
      * File = {}
  + outputs
    - 1
      * Raises TypeError
    - 2
      * Raises TypeError
    - 3
      * Raises TypeError

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 5

**Tests failed:** 0

**Function Name:** sq

**Number of tests:** 7

**Items to test:**

* Successful Square Root
  + inputs
    - 1
      * Num = 4
    - 2
      * Num = 9
    - 3
      * Num = 20
  + outputs
    - 1
      * Return 2
    - 2
      * Return 3
    - 3
      * Return 4.47213595499958
* Successful Square Root with Floats
  + inputs
    - 1
      * Num = 4.8
    - 2
      * Num = 9.0
    - 3
      * Num = 15.75
  + outputs
    - 1
      * Return 2.1908902300206643
    - 2
      * Return 3
    - 3
      * Return 3.968626966596886

**Corrections made:**

In paragraph form, discuss what changes were made to the function and discuss why they were made. Reference specific tests from the “items to test” section to list what failed previously and how these changes prevented failures.

**Tests passed:** 7

**Tests failed:** 0