

# Test 2 Prep

Spring 2021

# Repetition Structures

- Syntax
  - while
  - for
- Application
  - Counting controlled loops
  - Event controlled loops (like a validation loop)
- Step through the code
- How many times does it loop?
- Find the error
- Equivalent loops?

# Functions

- Know terms
  - Function definition
  - Function call
  - Function header
  - Function body
  - Arguments
  - Parameters
- Order of execution
- Write a function definition

# Scope of Variables

- Local scope
- Global scope
- Identify variables that are local / global
- global keyword
- Step through a program and give the output

# Files

- Open a file
- Close a file
- Read from a file (entire contents and one line at a time)
- Write to a file
- Use a loop to process a file

# Exceptions

- Identify lines of code that might cause problems
- Write try blocks (surround code that can cause problems)
- Write except blocks (handle problems)
- Write else blocks (runs when there are no problems)
- Need to know how to put this in a loop so that users can re-enter problem data

```
def main():
    file_open = False
    while not file_open:
        file_name = input("Enter the name of the file: ")
        try:
            infile = open(file_name, "r")
        except IOError:
            print("ERROR:", file_name, "does not exist.")
            print("Please remember that you must include any extension.")
        else:
            file_open = True
    #Process file here
    x = infile.read()
    print(x)
    infile.close()

main()
```

# Write Code

- Write a program that uses functions. You'll have to write a main function and one other function that is called from the main function. You will probably have to pass arguments to the function, and no global variables will be allowed.