Exam 1 covering Chapters 1 through Chapter 4 in the *zyBooks* course will consist of writing code. Students will take their exam during their respective regular laboratory class session either on Tuesday, February 9th, or Friday, February 12th. This exam is closed book and closed notes. You will have 1 hour 30 minutes to complete this exam that consists of two complete, yet short, Python 3 programs, which means approximately 45 minutes per program. No calculators may be used on the exam.

This code-writing exam will be given using our traditional Linux CSE machines where you will be able to edit and run your Python 3 code, checking for errors. While you will have access to code in your own Linux directory or my public directory, you will not have access to any notes or the Internet outside of this Linux environment. *Note that you may not add my lecture notes or similar files in your directory as an aid for your exam.*

* Face-To-Face assessment exams will be closed-book/closed-notes and will be completed in the lab classroom during the assigned lab section time using the lab computers and applicable software. The TA for the lab section will monitor student progress during the exam. *If you are registered in the face-to-face lab section (CSCE 1035-306) and cannot attend in person due to COVID-19 issues, you are to notify your instructor as soon as possible BEFORE the exam so that alternate arrangements can be made. Failure to do so may result in a zero for the exam.*
* Remote assessment exams will be closed-book/closed-notes and will be completed during the assigned lab section time using Zoom with your webcam, microphone, and speaker turned on. You must not turn these devices off during the exam or you may be subject to academic integrity violations. This applies to students registered in the remote lab section (CSCE 1035-397). If you have connectivity issues during the exam, please contact your instructor or TA **immediately** via Zoom or e-mail so that it can be resolved during the exam window. Your instructor will be continuously monitoring Zoom and e-mail during this time.

You should review your textbook, the lecture notes, class code examples and past lab assignments to prepare for this exam.

You should be familiar with the structure of a basic Python 3 syntax and how the interpreter works, which also includes knowing the difference between functions and methods. You will be asked to write two complete, though small, Python 3 programs, so you should be familiar with the basic structure to start writing a Python 3 program as well as the following:

**Chapter 1**

* Use print() to send output to the terminal, including options for multiple expressions/literals on the same line whether in one or more print() statements.
* Use input() to read a string of text from user input, with the prompt coming from a print() statement or through the input() statement.
  + You should be able to convert the string input into one of the basic data types such as, but not limited to, integers that we have discussed.
* Be familiar with the ASCII encoding for common characters, such as digits and upper- and lowercase letters, as you may be asked to work with the ASCII equivalent.
* General structure rules, such use of the colon : and indentation.

**Chapter 2**

* Use the assignment operator to assign values/expressions to variables.
* Use floating-point numbers in traditional decimal form or scientific notation, which includes formatting floating-point numbers using the format() method.
* Perform arithmetic calculations, including order of operations, and floor division, as well as use of compound operators (e.g., +=, \*=, etc.).
* Use various functions in the math module, such as sqrt() and pow() listed in the lecture notes, including how to access the function with the module prefix (or without).
* Use basic escape sequences, such as the newline character, and raw strings.
* Use the chr() and ord() functions to encode/decode text.

**Chapter 3**

* Use and manipulate strings, including accessing values, slicing, concatenation, and the len() function.
* Use and manipulate containers such as lists, tuples (including named tuples), sets, and dictionaries with various types of data, including accessing, copying, adding/removing elements, and the general operations identified in the lecture notes.
* Be familiar with the various data types, including how to perform type conversion.
* Use the format() method to perform string formatting with the various format specifications identified in the lecture notes.

**Chapter 4**

* Use branch statements, such as if, elif, and else statements, especially in constructing branching statements using equality (e.g., ==, !=) and relational and equality operators (e.g., <, <=, >, >=).
  + Use operator chaining and the and, the or, and the not logical operators for compound Boolean expressions.
* Use membership and identity operators with various data types.
* Use conditional expressions in place of if-else branches.