CS1301 Final Exam Topics
Fall 2023

You are responsible for all the handouts covered this semester as well as all topic chapters listed on the Living Schedule.

Topics from our first three exams

Chapter 1
· Types of errors
· comment statements
· print statements

Chapter 2
· Data types
· expressions
· variables
· assignment
· keywords
· legal variable names
· operators
· type conversion
· order of operations
· string operations
· input statement
· % - the modulus operator

Chapter 3
· import statement
· for loop introduction

Chapter 4
· functions
· parameters
· arguments
· return

Chapter 5
- Boolean values
- logical operators
- if..elif...else
- nested if statements

Chapter 6
- None
- debugging with print
- nested function calls

Chapter 7
- for loop
- while loop
- increment and decrement
- traversal
- nested for loops
- local variables
- break statement
- range

Chapter 8
- compound data type
- indexing parts of a string (slicing)
- len
- traversing through a string
- string comparison
- strings are immutable
- in and not in
- formatted strings in print statements

Chapter 11
- list creation
- accessing items in a list (indexing)
- in, not in
- simple list operations
- list slicing
- lists are mutable
- using for loops with lists
Chapter 9 Tuples
- Tuples
- Tuples are immutable
- Creating tuples
- Using tuples

Chapter 11 Lists
- Lists
- Lists are mutable
- Appending to lists
- Deleting from lists
- in, not in
- Objects
- Aliasing
- Cloning
- Lists as parameters
- List methods: sort, insert, index, reverse, remove
- Nested Lists

Chapter 12 Modules
- Random Module
- Math Module
- Importing modules
- Creating your own module

Chapter 13
- reading from files
- writing to files
- appending to files

Chapter 14 (Section 14.2 only)
- enumerate

Chapter 19 Try..Except
- Catching exceptions with try...except
- Finally

Chapter 20 Dictionaries
- Dictionaries
• Keys
• Values
• Keys
• Items
• In, not in
• Dictionaries are mutable
• Aliasing vs. copying

Additional Material:
• Try Except handout
• Aliases and Clones handout
• String module constants:
  o string.punctuation
  o string.ascii_uppercase
  o string.ascii_lowercase
  o string.digits
  o string.ascii_letters

CSV FILES
• PURPOSE OF CSV FILES
• USING DATA FROM CSV FILES
• CREATING CSV FILES

APIs Handout
• USING THE REQUESTS MODULE
• UNDERSTANDING JSON FORMATTED DATA

Chapter 18 and the Recursion Handout
• WHAT IS RECURSION?
• WRITING RECURSIVE CODE
• TRACING RECURSIVE CODE

Chapter 15
• OBJECT ORIENTED PROGRAMMING
• USER DEFINED DATA TYPES
• ATTRIBUTES
• INITIALIZER METHOD __INIT__
• OTHER METHODS
• DOT OPERATOR
CHAPTER 16

• OBJECTS ARE MUTABLE
• SAMENESS OF OBJECTS - OBJECTS ARE REFERENCES
• COPYING OBJECTS

CHAPTER 22

• COLLECTIONS OF OBJECTS
• OTHER DUNDER METHODS: __str__, __eq__, __lt__, __gt__, __le__, __ge__, __ne__

Additional Topics Since Exam 3

Binary/Hex conversion (Handout available)
  How Binary/Hex are used

Command Line / Terminal use (Handout available)

Big-O Notation (Handout available)
  Sequential/Linear Search
  Binary Search
  Bubble Sort
  Selection Sort
  Merge Sort