



BELLEVUE
UNIVERSITY

DSC 510

Week 7 Reflection

Where we're at now

- This week I want to take a break from learning new material in order to reflect on what we've learned until this point and take a look at what's to come.
- We start the course off with covering a lot of information very quickly.
- Week 1 we discuss programming fundamentals in order to get an idea of what a program is and how Python fits into that.
- Week 2 we begin the discussion of simple types i.e. variables. It is important that we understand how data is stored within our programs and how we can interact with that data such as performing mathematical operations. We also learn begin to look at strings. Simple types are the foundation of programming. Without this foundation we certainly can't be successful in Python.
- Week 3 we really dive into strings and collection types such as dictionaries and tuples. This is important since these types of storage mechanisms are used heavily in our programs. We also start interacting with files. In order to process the data that we receive from files it's essential to have more advanced storage mechanisms for the data. You can really start to see the connection between the different topics.
- Week 4 we begin to look at If Statements. If statements are a important construct for programming because they allow our programs to make decisions. Suppose we're taking in a username and a password from a user. We need to compare the user supplied data to what we have stored for that user. If statements allow us to make a decision on how to proceed if the data supplied is correct and if it's incorrect.

Where we're at now continued

- Week 5 we really start to look at how we can break large monolithic programs into smaller chunks by using Functions. Functions allow us to create small pieces of logic which can be used over and over again.
- Week 6 we begin our discussion of loops. Loops provide us the ability to perform repetitive tasks in our programs. Imagine, again that we want to get a username and password from a user. We use IF statements to determine what to do if the password is correct (grant access) and if the password is wrong (deny access). But lets say that we want to give the user 3 login attempts. We can use a loop for this. While the user hasn't exceeded 3 login attempts prompt for the username and password.

What's to Come

- Week 8 we're going to dictionaries, tuples, and JSON Data. These are fundamentals for python especially in data science where we will likely interact with JSON data on a regular basis. It's important that we understand dictionaries first since JSON is essentially dictionary data.
- Week 9 we're going to take a look at file operations and modifying your week 7 program to write to a file rather than printing to a screen.
- Week 10 we take a look at web services. We will often interact with web services in order to obtain data from someone. This data typically comes back to us as JSON data. See the connection?
- Week 11 we'll dive into object oriented programming and Markdown which allows us to create really useful documentation for our programs.
- Week 12 we wrap up. At this point you should have a really good intro into programming with Python.