3.3 Lesson Summary - Python Deeper Dive

Python provides Dictionaries and List Comprehensions to allow a user to better manage the collections of data in their code. Values can be passed into and returned from Functions. GitHub provides a way to share, collaborate and manage changes to code.

Concept: **Dictionaries** in Python are unordered, changeable, and indexed collections of key value pairs. Like lists and tuples Dictionaries allow you to store groups of data but Dictionaries offer the added functionality of labeling your data. A list has no information about the data other than the order it resides in but when using Dictionaries, the key can function as a label. A Dictionary storing data about the city could look like the following:

*city = {*

*“name”: “London”,*

*“country”: “England”,*

*“population”: 8908081*

*}*

You can access the name of the city Dictionary using the following code: *city[“name”]*

* Activity: 02-Ins\_Dicts, 03-Stu\_HobbyBook
* Suppl link: <https://www.w3schools.com/python/python_dictionaries.asp>

Concept: Python offers a number of ways to reduce the amount of code you write. **List Comprehensions** offer a means of creating or manipulating a List using less code. To create a new List by doubling the first list of numbers you can write the following code:

*original\_list = [4, 8, 7]*

*doubled\_list = [x \* 2 for x in original\_list]*

* Activity: 04-Evr\_List\_Comprehensions, 05-Stu\_List\_Comprehensions

Concept: Functions in Python can accept parameters and return values. If you wanted to create a function to double a number that you passed into it you could use the following code:

*def double\_my\_number(number):*

*return 2 \* number*

* Activity: 06-Evr\_Functions, 07-Stu\_Functions, 08-Par\_WrestlingWithFunctions

Concept: GitHub offers a way to share your code with other developers and track changes to your code. Code for a project in GitHub is stored in a **Repository**. Once you have created a repository you may wish to maintain different versions of your code. You can accomplish this by creating a **branch** from the main branch. To update or save your code to a repository you use a **commit**. The commit code can look like this:

*git commit -m <add commit message here>*

If you’re working in a branch you can then update the main branch using a pull request.

* Suppl link: <https://guides.github.com/activities/hello-world/>

Dictionaries allow the user to describe the data in a collection by using the key in the key-value pair as a meaningful label for that data. Lists can be edited and created more efficiently using List Comprehensions. GitHub provides numerous tools to allow a user to save, monitor, and share the changes to code.