Python Assignment 11

Python Basics:

Modules & Packages

Brought to you by VEX Robotics Team - VRC 99909A Rising Phoenix

Class Recap

When it comes to reusing code in Python, it all starts with the humble function:

- **Function** - Take some lines of code, give them a name, and you've got a function (which can be reused).
- **Module** - Take a collection of functions and pack them inside a file, and you've got a module (which can also be reused).
- **Package** - Take a collection of modules and pack them in directories (containing an additional __init__.py file) that give a package hierarchy, and you've got a package (which can also be reused).

Reusable code allows us to share our code with each other so that we don't have to reinvent the wheel. Someone already wrote code to create a simple GUI with Python. We can simply install that package (using pip - the default Python Package Manager) on our machine and import modules from that package into our code to use any functions defined there in order to create a GUI for our application.

As of now, there are 130k + Python packages and still growing. There are Python packages we can use to create games, to process videos, to do natural language processing, to do machine learning, and many more. After this lesson, you will learn how to tap into the vast treasure trove of Python packages. As a matter of fact, it's this huge amount of Python Packages, especially in the advanced fields of data processing, Artificial Intelligence, and Machine Learning, that made it one of the most popular CS Languages.

Assignment 1:
Import simple Python GUI package - tkinter

Follow this tutorial to create some fun GUI:

https://likegeeks.com/python-gui-examples-tkinter-tutorial/

Assignment 2:
Install and import Python game engine - pygame

Follow this tutorial to create a simple game using pygame:

https://www.raywenderlich.com/2795-beginning-game-programming-for-teens-with-python

Note: this should keep you busy for the rest of the summer!