**Lab #1: Getting Started**

**Due Date: 2/12/2018**

**Name: .**

**Lab 1 Objectives:**

* **Learn the basic flow of a drone app:** 
  + **How to connect to the drone vehicle**
  + **Get the vehicle attributes and parameters**
* **Learn how to query the various vehicle states and vehicle parameters**
* **The drone simulator is available on the VM, droneprog.cs.kent.edu**
* **Log in to your account on the VM using your KSU ID and password**

**Answer all questions**

**cd /tmp/dronekit-python/**

**You will need to create a new directory, lab\_1 in /tmp/dronekit-python/**

**#1. [10 points]**  The "Hello Drone" program shows the basic template of a drone program

1. Read the source code ***hello\_drone.py***to understand how it works (refer to lecture slides)
2. Copy *hello\_drone.py* to  **/tmp/dronekit-python/lab-1/**
3. Run the hello drone program: *python* ***hello\_drone.py****using different target address and different values for wait\_ready, setting the baud rate and connection timeout*
4. Record your observations

**#2. [10 points] Vehicle State:** This program shows how to get/set vehicle attribute and parameter information, how to observe vehicle attribute changes

1. Read the source code ***vehicle\_state.py*** to understand how it works (refer to lecture slides)
2. Copy *vehicle\_state.py* to  **/tmp/dronekit-python/lab-1/**
3. Run the program: *python* ***vehicle\_state.py****using different connection\_ string and different target address in the connect( ) system call*
4. List the different states of the vehicle, describe the meaning of the drone heartbeat
5. Query different drone states, and describe your results
6. List the attributes/parameters that you can change(set)
7. Record your observations

Check with the TA if you need assistance installing the DroneKit-Python and Sitl