We modified two scripts to give an example of how to pass messages from the mobile robot to the UR. In this example the mobile robot computer publishes a new message to our custom topic /test/docking to indicate when the UR computer should start its pick and place operation.

**keyboard\_process.py** file in located in covid19bot/corona\_ws/src/user\_input/src/keyboard\_process.py

* The following line was added to def \_\_init\_\_()
  + self.dockPub = rospy.Publisher('/test/docking', Bool, queue\_size = 1)
    - This is our custom topic called /test/docking with message type Bool (boolean)
    - This message is of type Boolean and is set to true when a character is typed in the command line (see detectCmds\_dock). Ex. you may want to set a message to true when you finish a task like docking or pick and place
* This method was added: detectCmds\_dock()
  + When a ‘p’ character is typed it sets the data in our Boolean type message to True

**move\_group\_python\_interface\_tutorial.py**

Methods added:

* We added a global variable called docking\_complete
* listener()
  + This is where we create out subscriber to the same topic mentioned above: rospy.Subscriber("/test/docking",Bool, self.callback)
* callback(data)
  + this method is called every time the subscriber receives a new message
  + We set our global variable docking\_complete equal to the new message data (a Boolean) we received on this topic
  + In our main method we use this variable to control when we execute the UR commands