MILESTONE 3 (STAGE 1) – PRELIMINARY SOLID MODEL (MODELLING SUB-TEAM)

Team Number: Thurs-23

Complete this worksheet individually before coming to Design Studio 9.

1. Take multiple screenshots of your preliminary solid model
   → You are also required to submit an IPT file of each solid model (see Submission Details section above)
   → Be sure to label model with your Name and MacID
2. Insert your photo(s) as a Picture (Insert > Picture > This Device)
3. **Do not include more than *two* solid modelling screenshots per page**

At the beginning of Design Studio, we will be asking that you copy-and-paste the above list into **Milestone Three Team Worksheets.** It does seem redundant, but there are valid reasons for this:

- Each team member needs to submit their screenshots with the **Milestone Three Individual Worksheets** document so that it can be ***graded***
- Compiling your individual work into this **Milestone Three Team Worksheets** document allows you to readily access your team member's work
  - This will be especially helpful when completing ***Stage 3*** of the milestone

Team Number: Thurs-23

Name:	MacID
Insert screenshot(s) of your model below	

*Limit screenshots to no more than 2 per page. For additional screenshots, please copy and paste the above on a new page

MILESTONE 3 (STAGE 2) – PRELIMINARY PROGRAM TASKS (COMPUTATION SUB-TEAM)

Team Number: Thurs-23

Complete this worksheet individually before coming to Design Studio 9.

1. Take multiple screenshots of your code
   → You are also required to submit a Python (*.PY) file of your code (see Submission Details section above)
   → Be sure to label your tasks with your Name and MacID
2. Insert your photo(s) as a Picture (Insert > Picture > This Device)
3. **Do not include more than *one* screenshot per page**

At the beginning of Design Studio, we will be asking that you copy-and-paste the above list into **Milestone Three Team Worksheets.** It does seem redundant, but there are valid reasons for this:

- Each team member needs to submit their screenshots with the **Milestone Three Individual Worksheets** document so that it can be ***graded***
- Compiling your individual work into this **Milestone Three Team Worksheets** document allows you to readily access your team member's work
  - This will be especially helpful when completing ***Stage 3*** of the milestone

Team Number: Thurs-23

Name: Vaisnavi Shanthamoorthy	MacID: shanthav

Insert screenshot(s) of your code below (Top Part of code on this page, bottom half on next page)

File Edit Format Run Options Window Help

```
## ------------------------------------------------------------------------------------------------------------
#Name:Vaisnavi Shanthamoorthy
#macID: shanthav
#Student Number: 400319038
#Program Task: Move End Effector Function
## TEMPLATE
## Please DO NOT change the naming convention within this template. Some changes may
## lead to your program not functioning as intended.

import sys
sys.path.append('../')

from Common_Libraries.p2_lib import *

import os
from Common_Libraries.repeating_timer_lib import repeating_timer

def update_sim ():
    try:
        arm.ping()
    except Exception as error_update_sim:
        print (error_update_sim)

arm = qarm()

update_thread = repeating_timer(2, update_sim)
```

*Limit screenshots to no more than 1 per page. For additional screenshots, please copy and paste the above on a new page

Name: Vaisnavi Shanthamoorthy	MacID: shanthav

(Second Part of screenshot of full code below):

```
## STUDENT CODE BEGINS: MOVE END EFFECTOR
## ----------------------------------------------------------------------------------------------------

from MuscleGUILib import* #import muscle sensor emulator
emg = EMGSim()

thres = 0.3 #set a threshold

#Input the xyz and abc coordinates for the respective pickup and dropoff locations
x = (float(input("Please enter the x-coordinate point for the pickup location: ")
y = (float(input("Please enter the y-coordinate point for the pickup location: ")
z = (float(input("Please enter the z-coordinate point for the pickup location: ")
a = (float(input("Please enter the a-coordinate point for the dropoff location: ")
b = (float(input("Please enter the b-coordinate point for the dropoff location: ")
c = (float(input("Please enter the c-coordinate point for the dropoff location: ")

pickup_location = [x,y,z] #store the entered values of x,y,z for the pickup location coordinates in a list
dropoff_location = [a,b,c] #store the entered values of a,b,c for the dropoff location coordinates in a list


def move_end_effector(pickup_loc,dropoff_loc):

    if arm.emg_left < thres:
        arm.control_gripper(-45) #open up the gripper fully

    if arm.emg_right >= thres:
        time.sleep(2)
        arm.move_arm (pickup_loc[0],pickup_loc[1],pickup_loc[2]) #move to the pick-up location based on the coordinates entered
        time.sleep(2)
        if arm.emg_left >= thres:
            arm.control_gripper(45) #close the gripper so that the container is secure
        time.sleep(2)
        arm.move_arm(0.4064,0.0,0.4826) #return to home base before going to the dropoff location
        time.sleep(2)
        arm.move_arm (dropoff_loc[0],dropoff_loc[1],dropoff_loc[2]) #move to the dropoff location based on the coordinates entered
        time.sleep(2)


move_end_effector(pickup_location,dropoff_location)
```

MILESTONE 3 (STAGE 3) – PUGH MATRIX (MODELLING SUB-TEAM)

Please complete this worksheet in your corresponding team document.

MILESTONE 3 (STAGE 4A) – CODE PEER-REVIEW (COMPUTATION SUB-TEAM)

Please complete this worksheet in your corresponding team document.

MILESTONE 3 (STAGE 4B) – PROGRAM TASK PSEUDOCODE (COMPUTATION SUB-TEAM)

Please complete this worksheet in your corresponding team document.