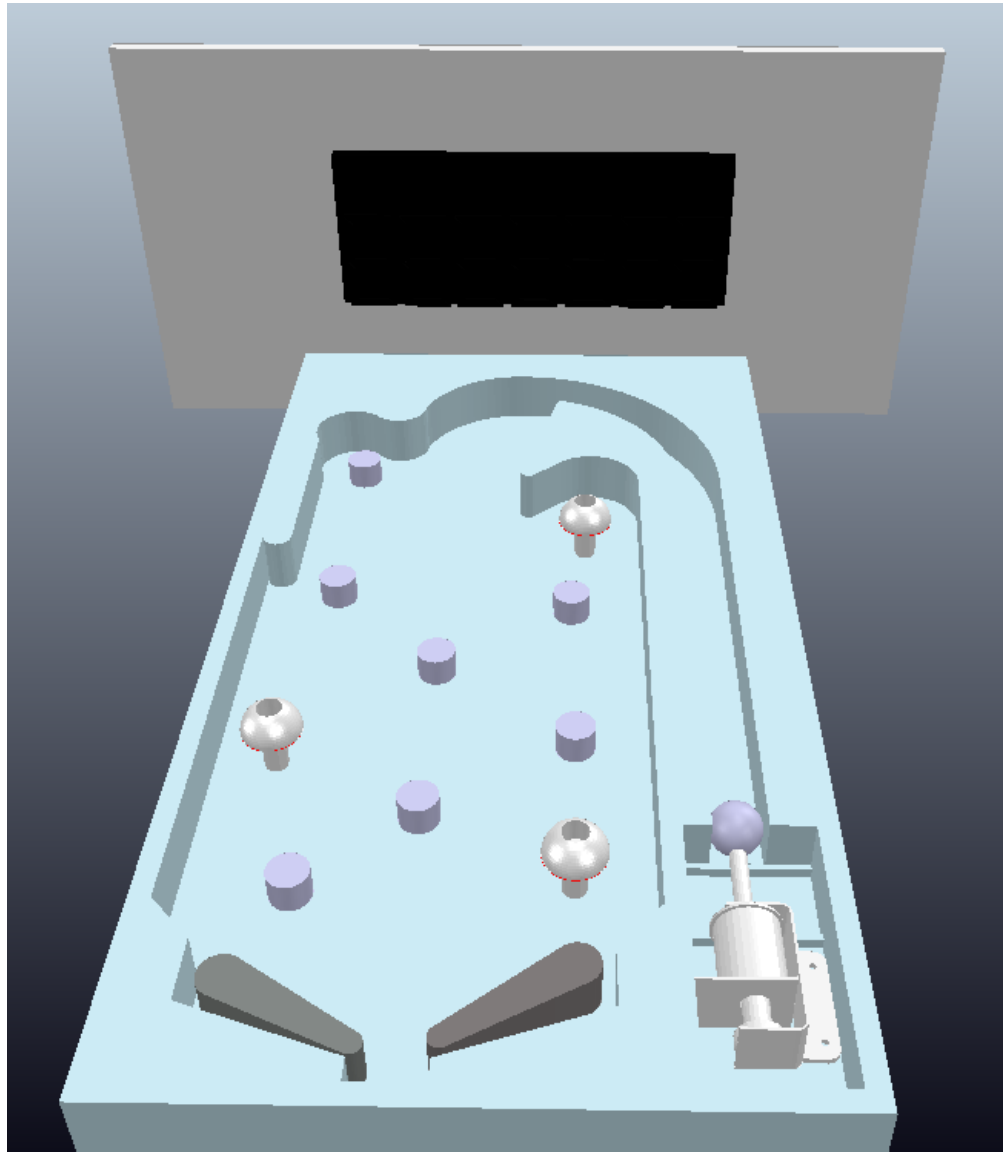
Cad2024
電腦輔助設計與實習
彈珠台

組長:41223122李詮聖

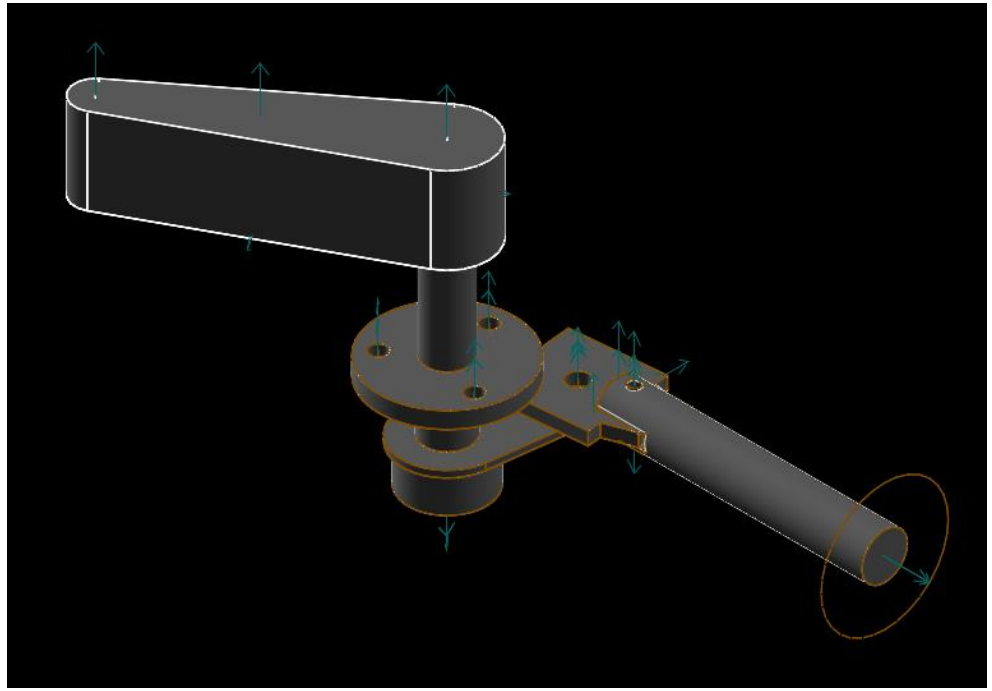
組員:41223130張翊倫

41223149謝承祐

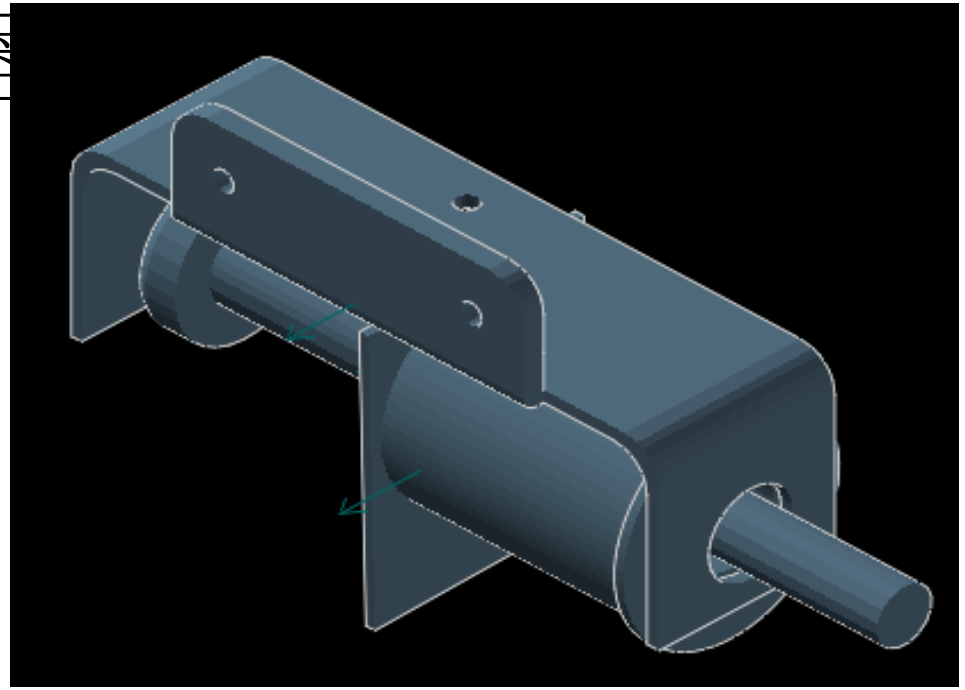


拆解

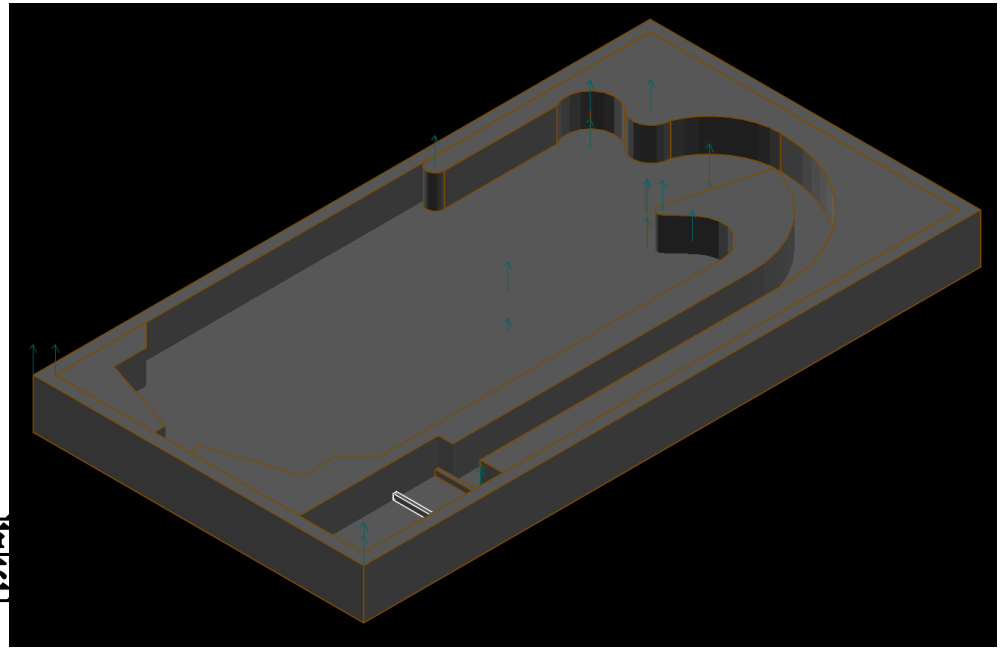
（1）撥桿



（2）發射器

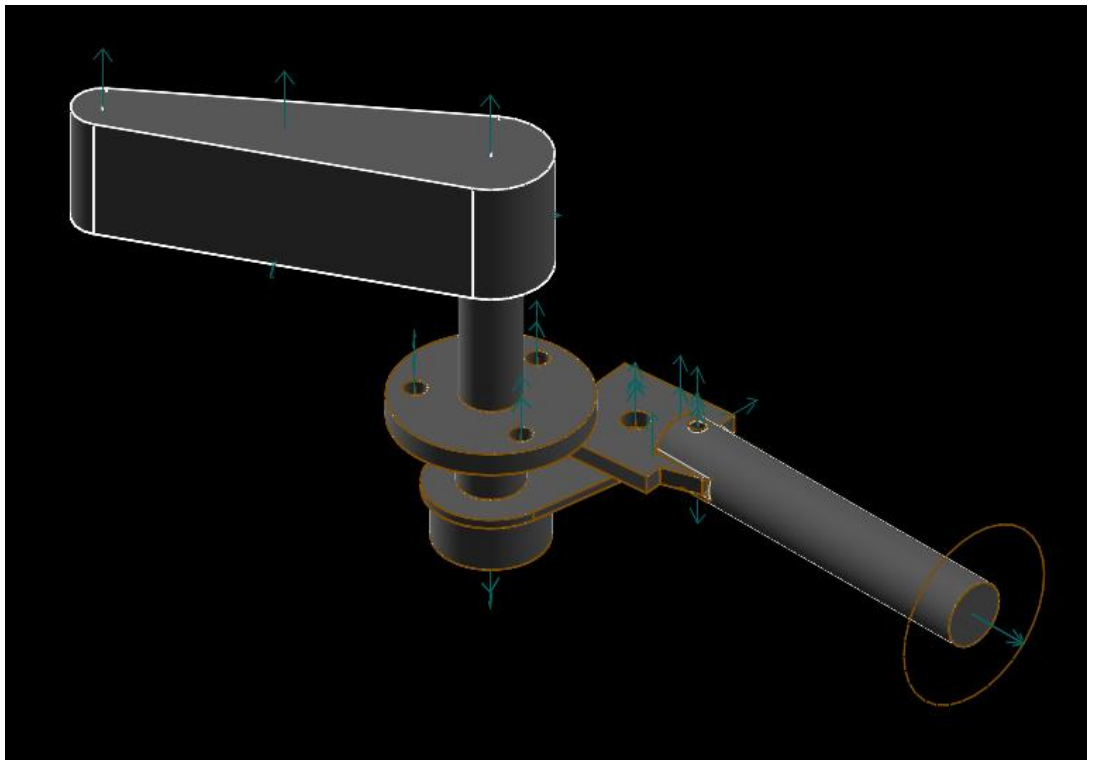


（3）彈珠檯



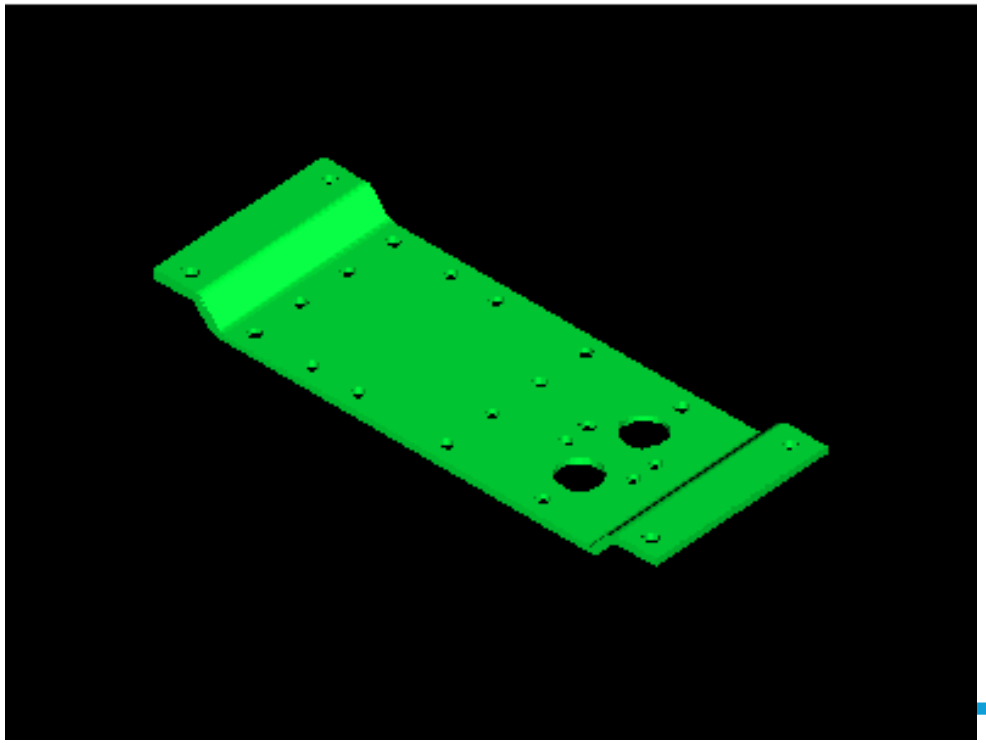
撥桿

1.零件分配
2.程式

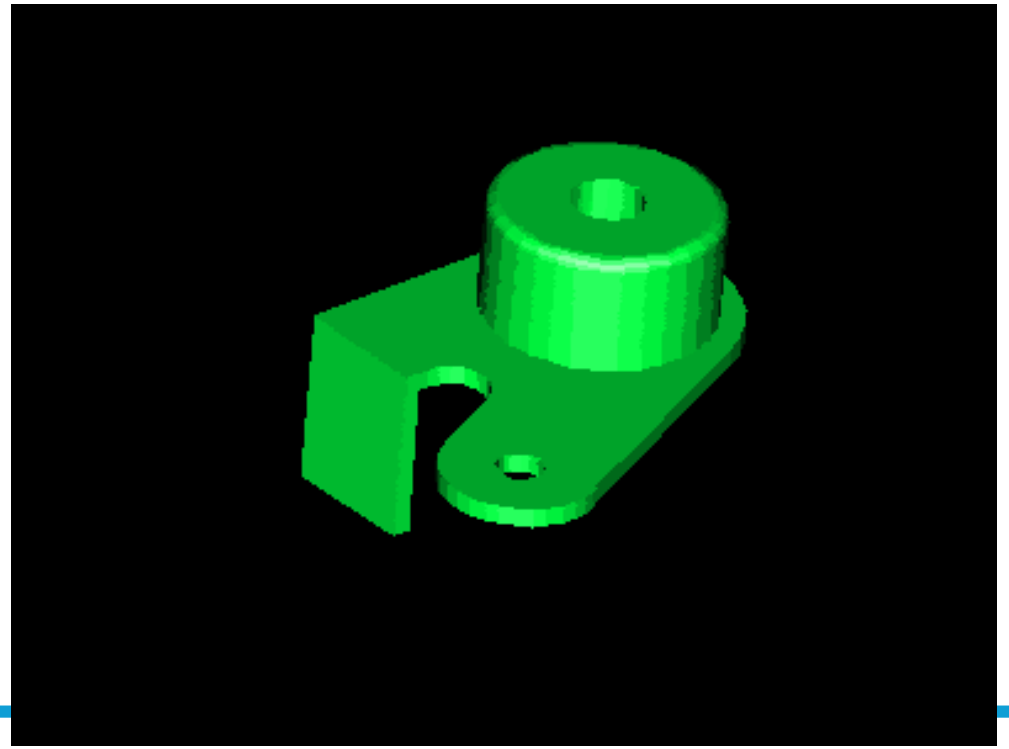


撥桿:零件分配-41223122李詮聖

Platine Batteur_sldprt

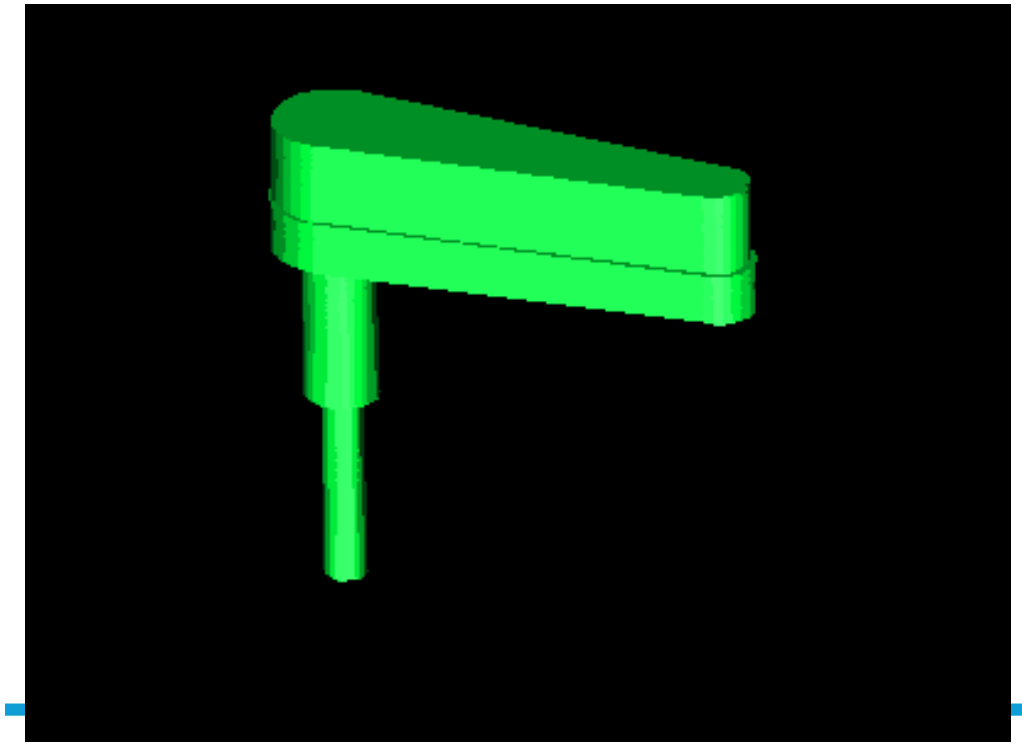


Piece métalique gauche_sldprt

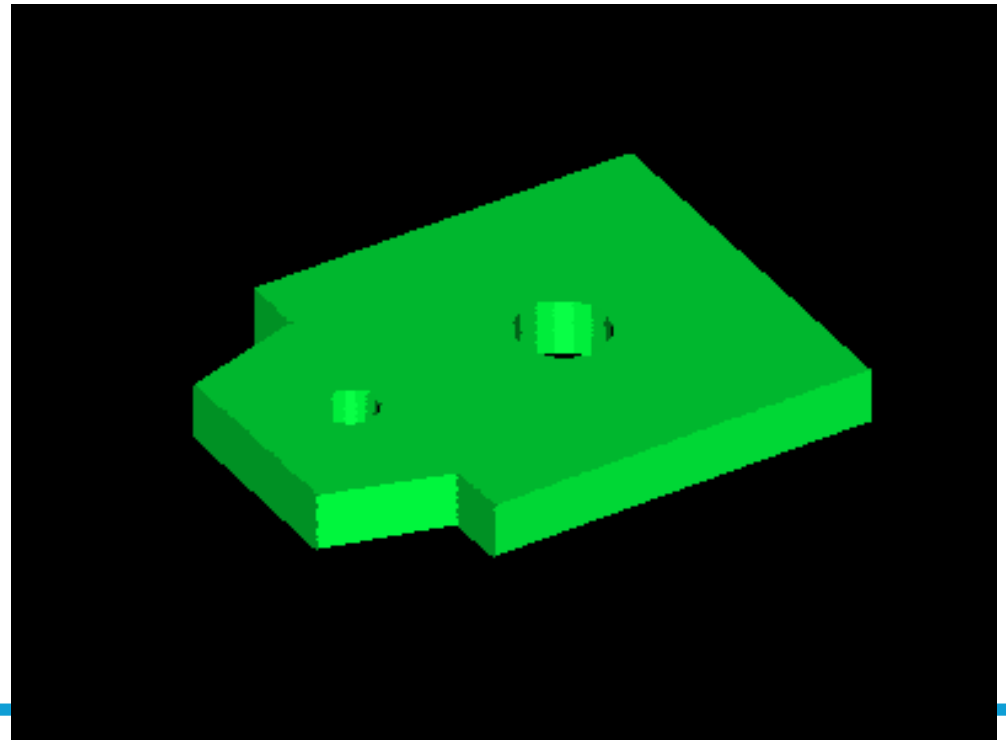


撥桿:零件分配-41223130張翊倫

Flipper_sldprt

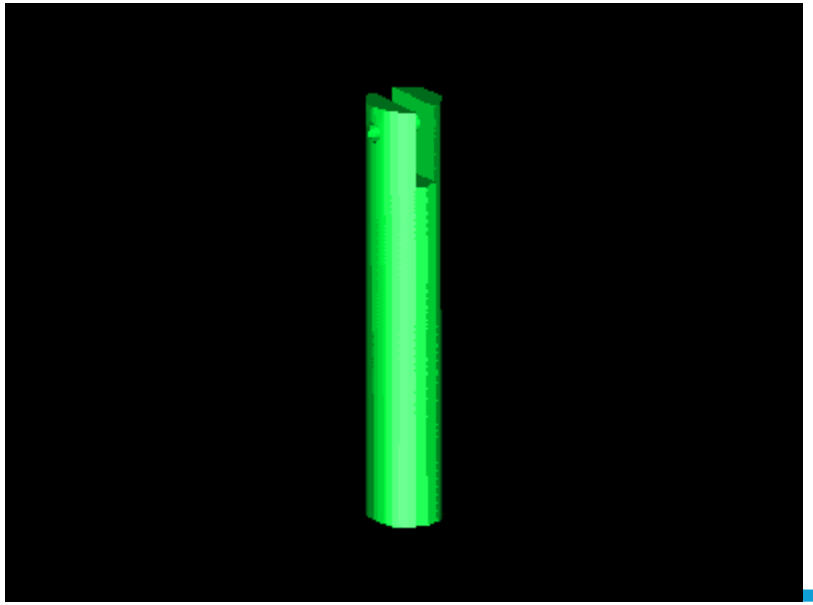


Piece composite_sldprt

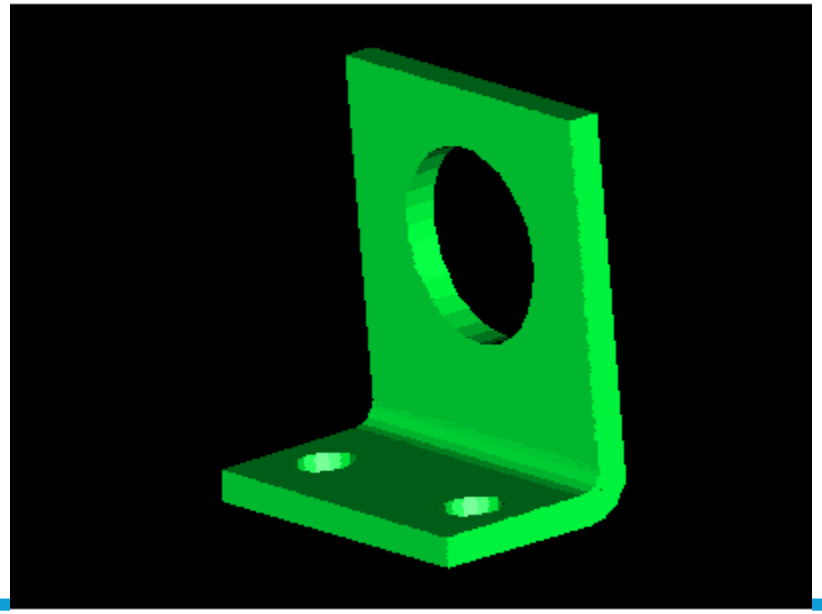


撥桿:零件分配-41223149謝承祐

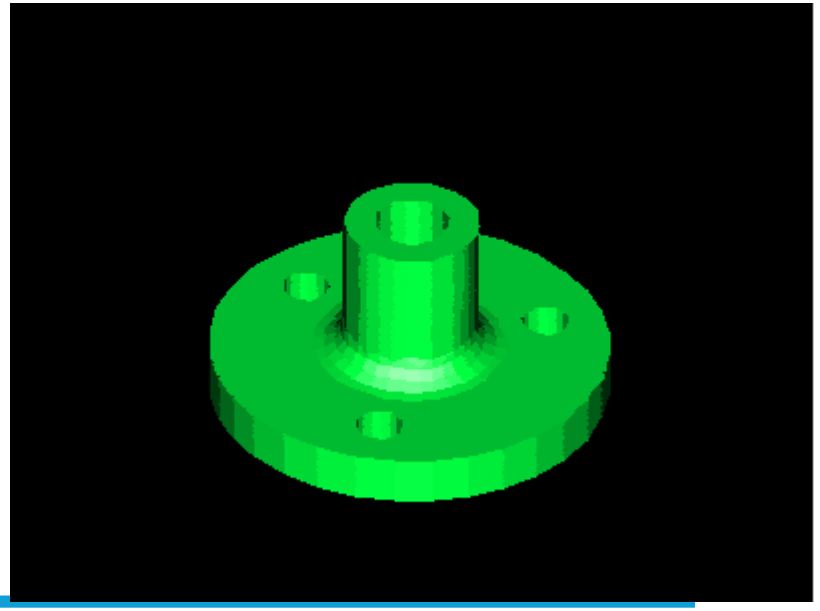
slider



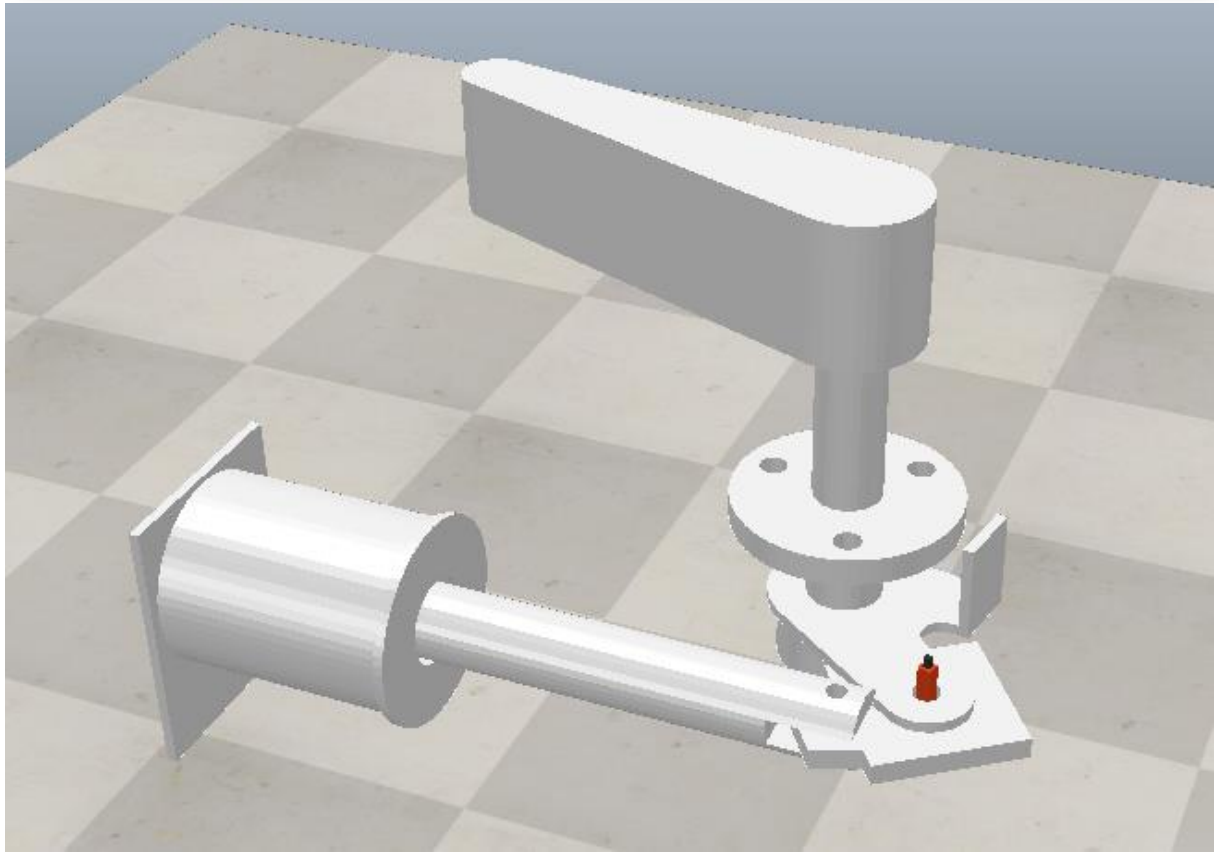
Sheet metal

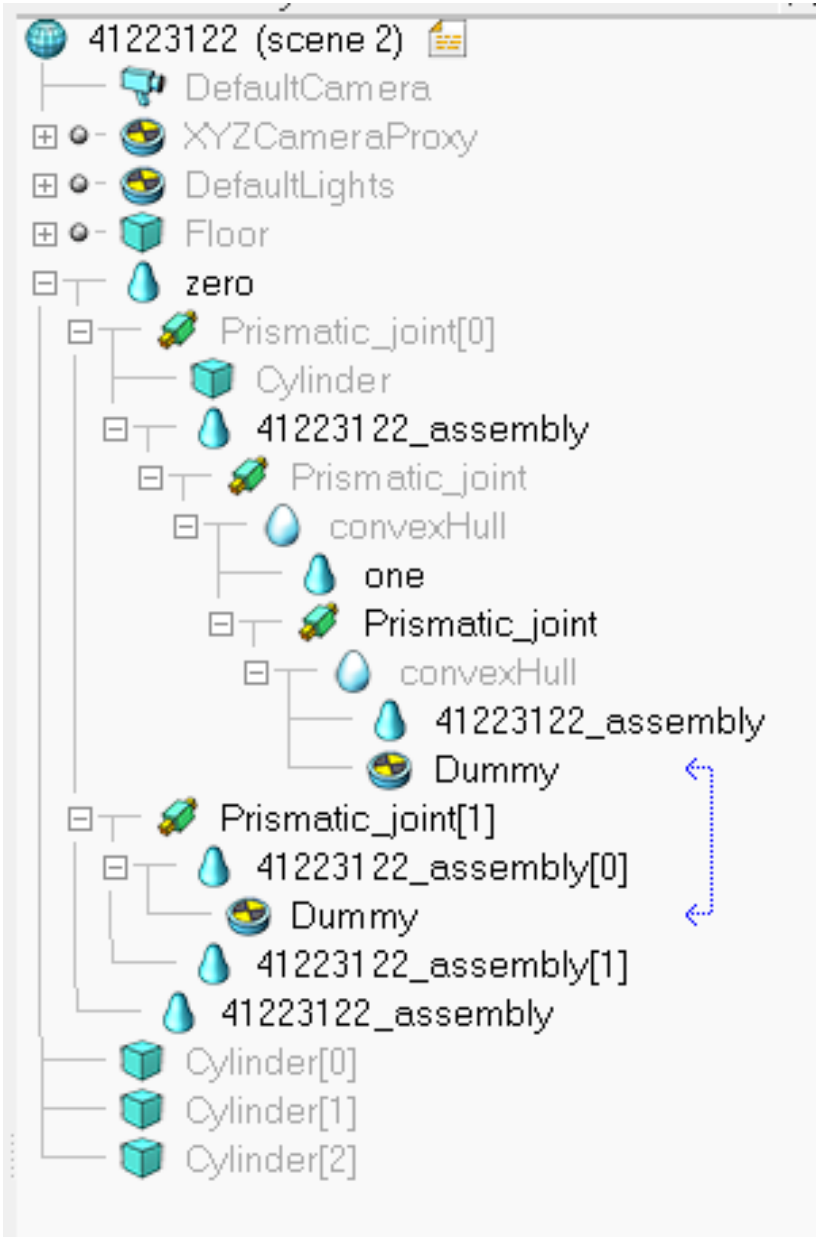


plastic_flipper

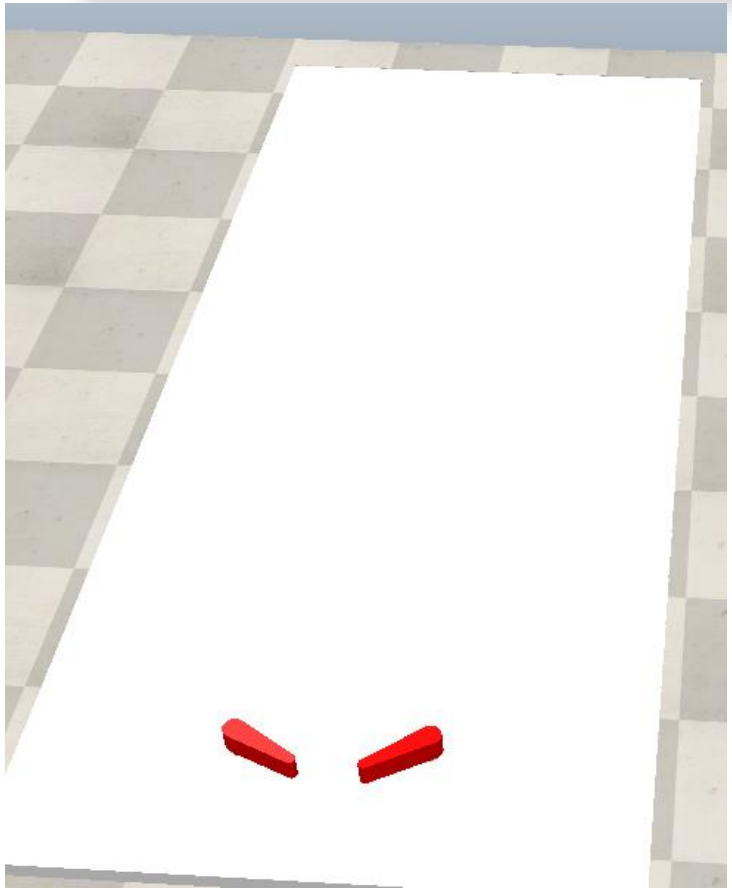


撥桿:程式




41223122 (scene 2)
DefaultCamera
XYZCameraProxy
DefaultLights
Floor
zero
Prismatic_joint[0]
Cylinder
41223122_assembly
Prismatic_joint
convexHull
one
Prismatic_joint
convexHull
41223122_assembly
Dummy
Prismatic_joint[1]
41223122_assembly[0]
Dummy
41223122_assembly[1]
41223122_assembly
Cylinder[0]
Cylinder[1]
Cylinder[2]

撥桿:程式



以WSPL進行

```python
# pip install pyzmq cbor keyboard
from coppeliasim_zmqremoteapi_client import RemoteAPIClient
import keyboard

# Connecting to the CoppeliaSim server
client = RemoteAPIClient('localhost', 23000)

print('Program started')
sim = client.getObject('sim')

# Get the handle for the slider (prismatic joint)
cw= sim.getObject('/cw_joint')
ccw= sim.getObject('/ccw_joint')

# Starting the simulation
sim.startSimulation()
print('Simulation started')

# Main control loop
def main():
    # Keep running until simulation is stopped
    while True:
        if keyboard.is_pressed('p'):  # Move slider to -0.15 position
            print("p is pressed")
            sim.setJointTargetPosition(cw, -0.25)

        if keyboard.is_pressed('l'):  # Reset slider to the original positwswsplplpplon
            print("l is pressed")
            sim.setJointTargetPosition(cw, 0.0)  # Reset to the initial position

        if keyboard.is_pressed('w'):  # Move slider to -0.15 position
            print("w is pressed")
            sim.setJointTargetPosition(ccw, -0.28)

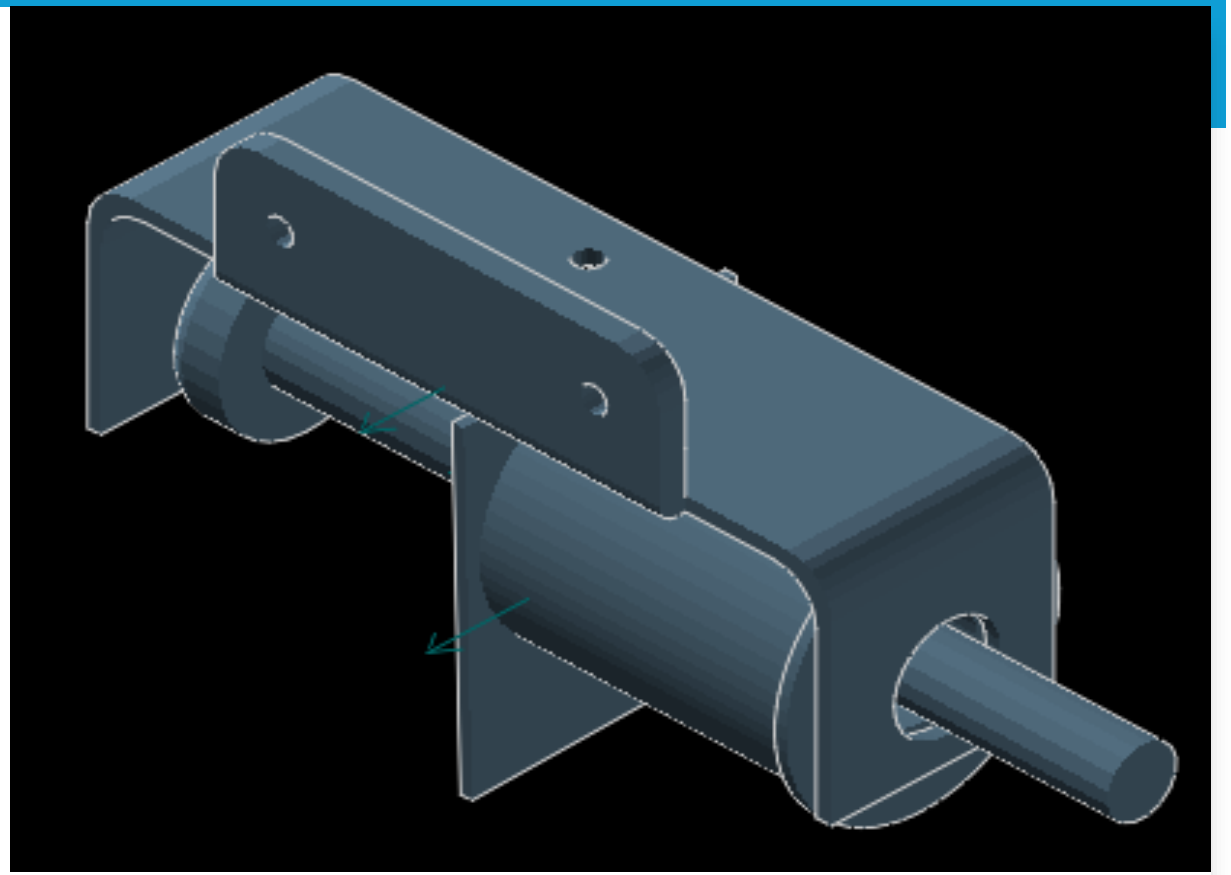
        if keyboard.is_pressed('s'):  # Reset slider to the original position
            print("s is pressed")
            sim.setJointTargetPosition(ccw, 0.0)  # Reset to the initial position

        if keyboard.is_pressed('t'):  # Stop the simulation when 'q' is pressed
            print("t is pressed - stopping simulation")
            sim.stopSimulation()
            break

# Start the main control loop
main()
```

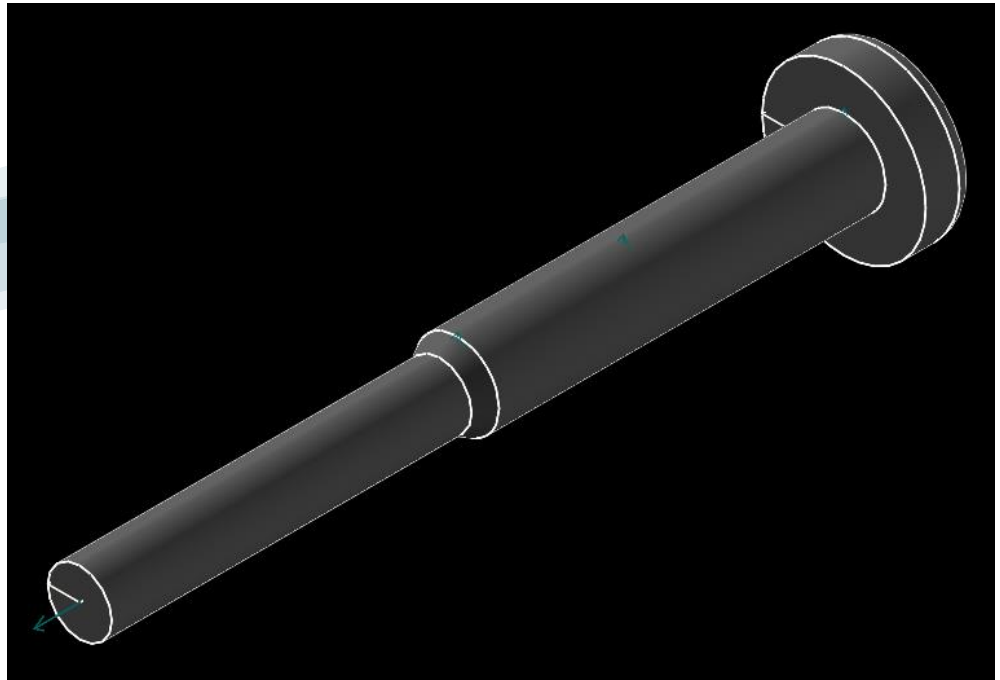
發射器

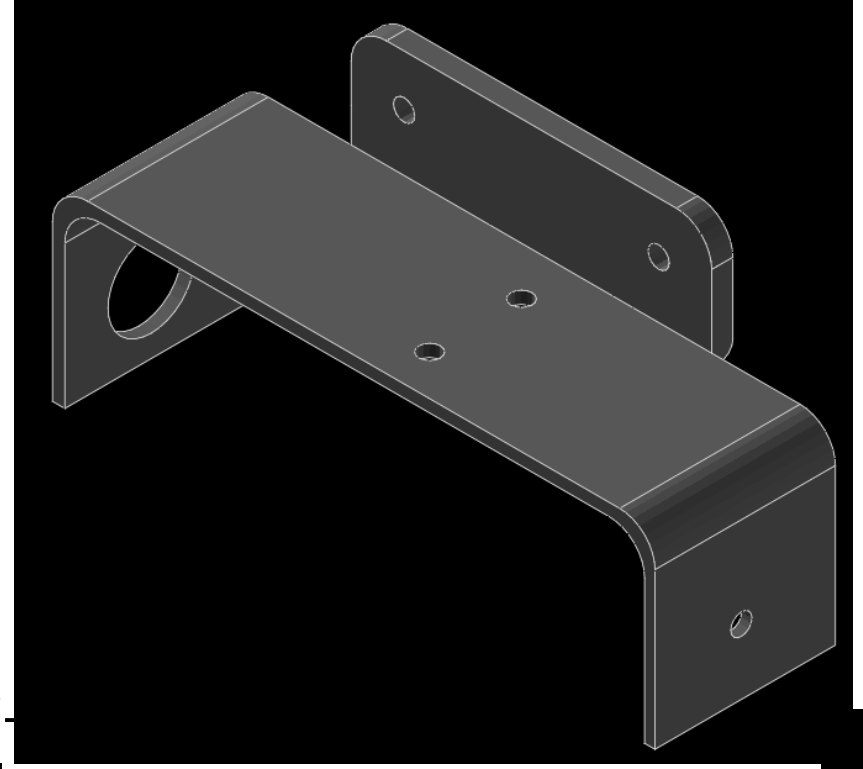
1.零件拆解
2.程式
3.數值調整



發射器:零件

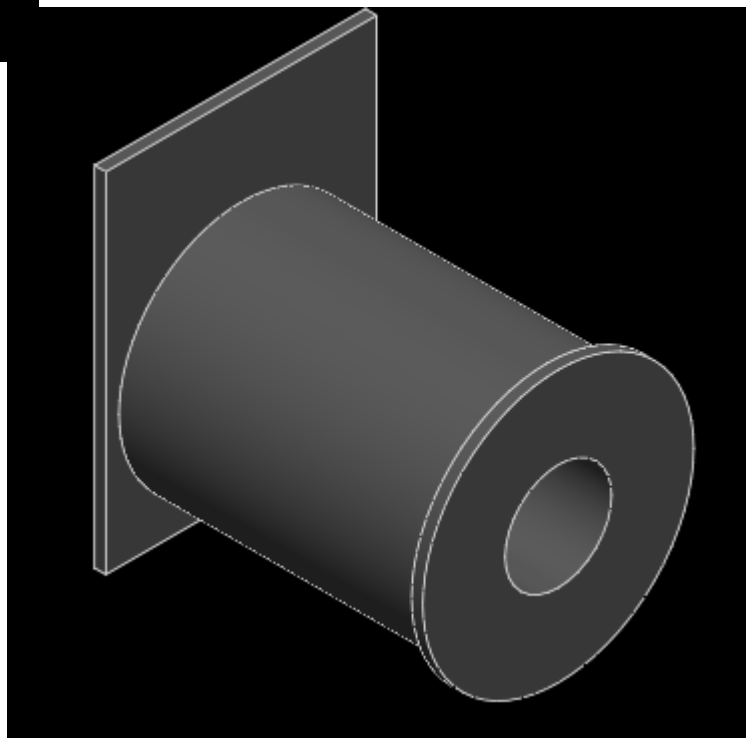
Plongeur Renvoi bille



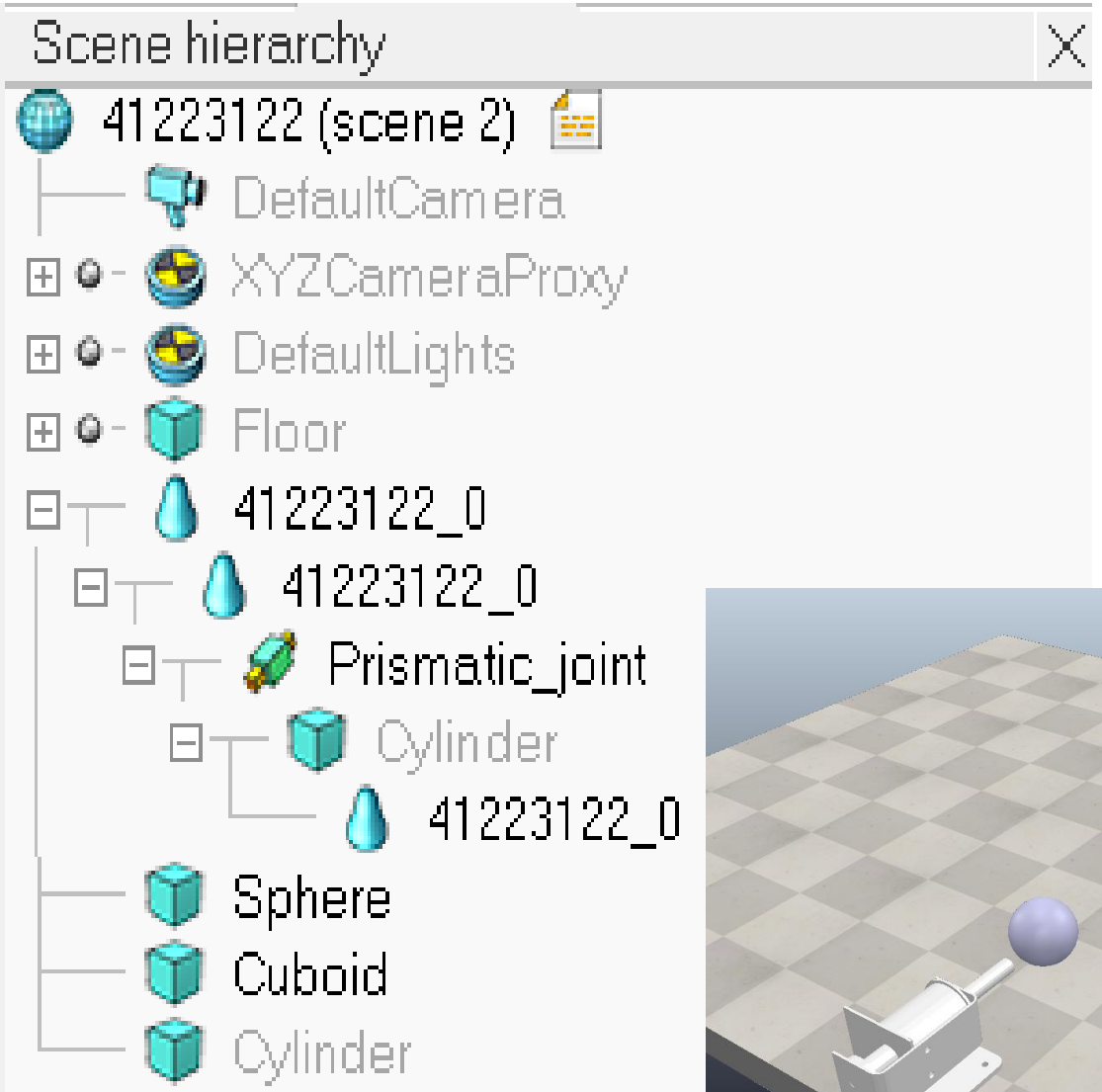


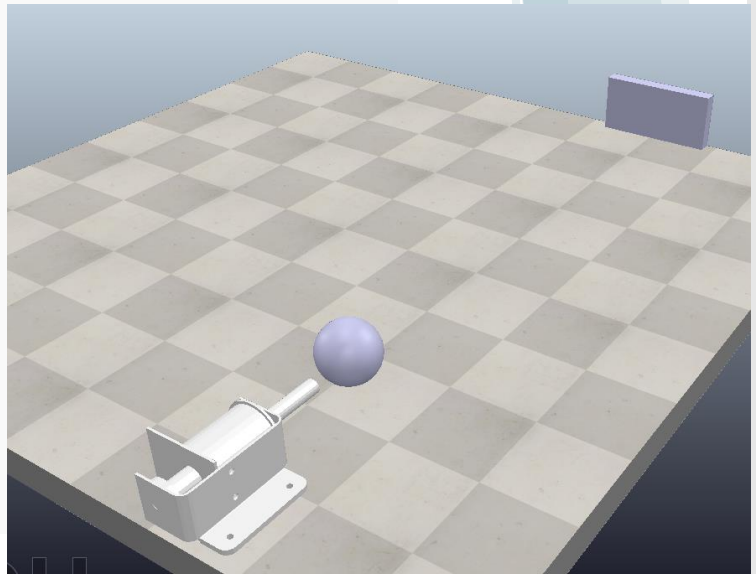
Platine renvoie bille_sldprt

solenoid



發射器：程式





(Untitled) * SciTE

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1 Untitled *

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print('Simulation started')

# Main control loop
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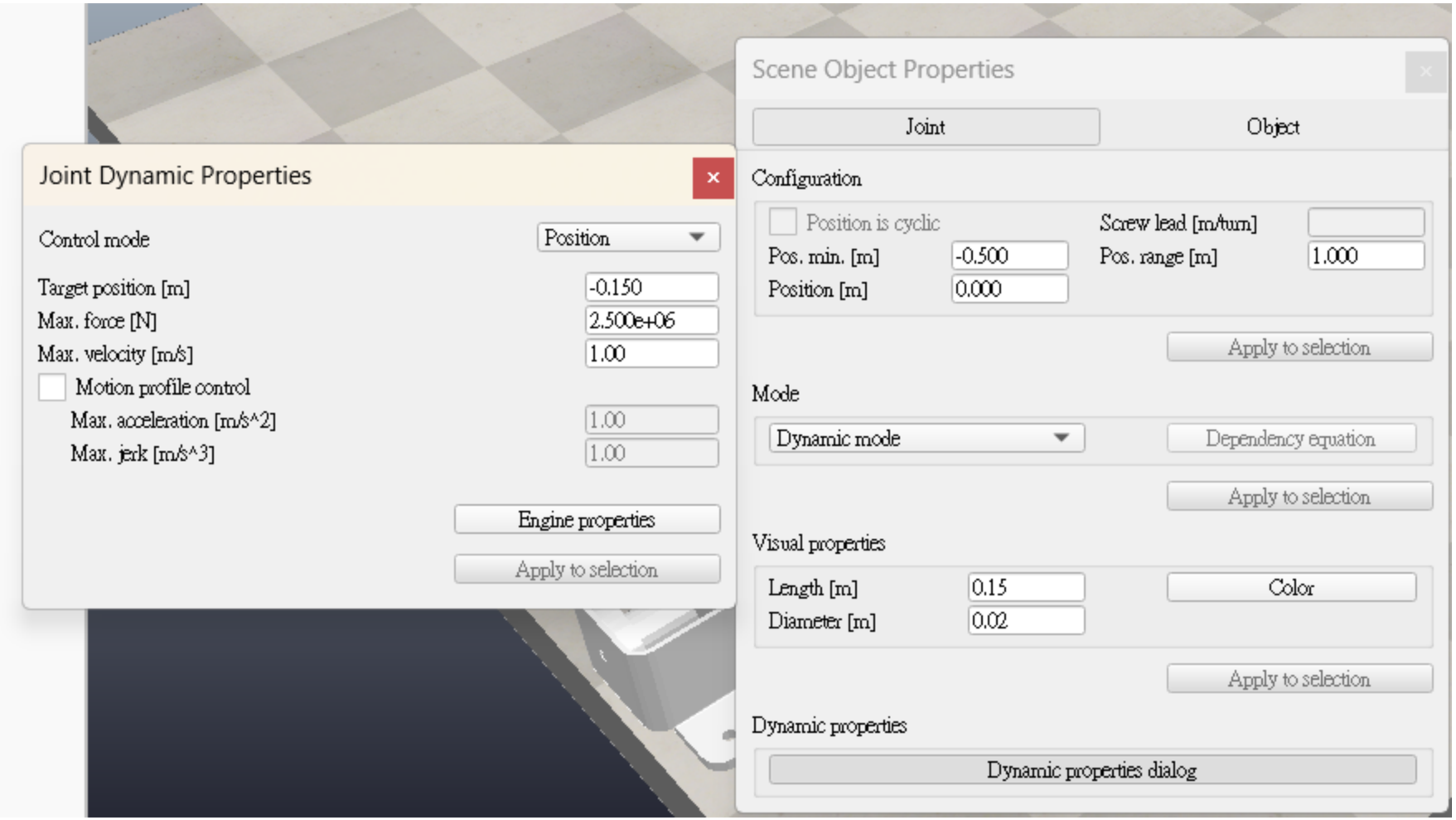
    # Keep running until simulation is stopped
    while True:
        if keyboard.is_pressed('w'):  # Move slider to -0.15 position
            print("w is pressed")
            sim.setJointTargetPosition(slider, -0.15)

        if keyboard.is_pressed('s'):  # Reset slider to the original position
            print("s is pressed")
            sim.setJointTargetPosition(slider, 0.0)  # Reset to the initial position

        if keyboard.is_pressed('q'):  # Stop the simulation when 'q' is pressed
            print("q is pressed - stopping simulation")
            sim.stopSimulation()
            break

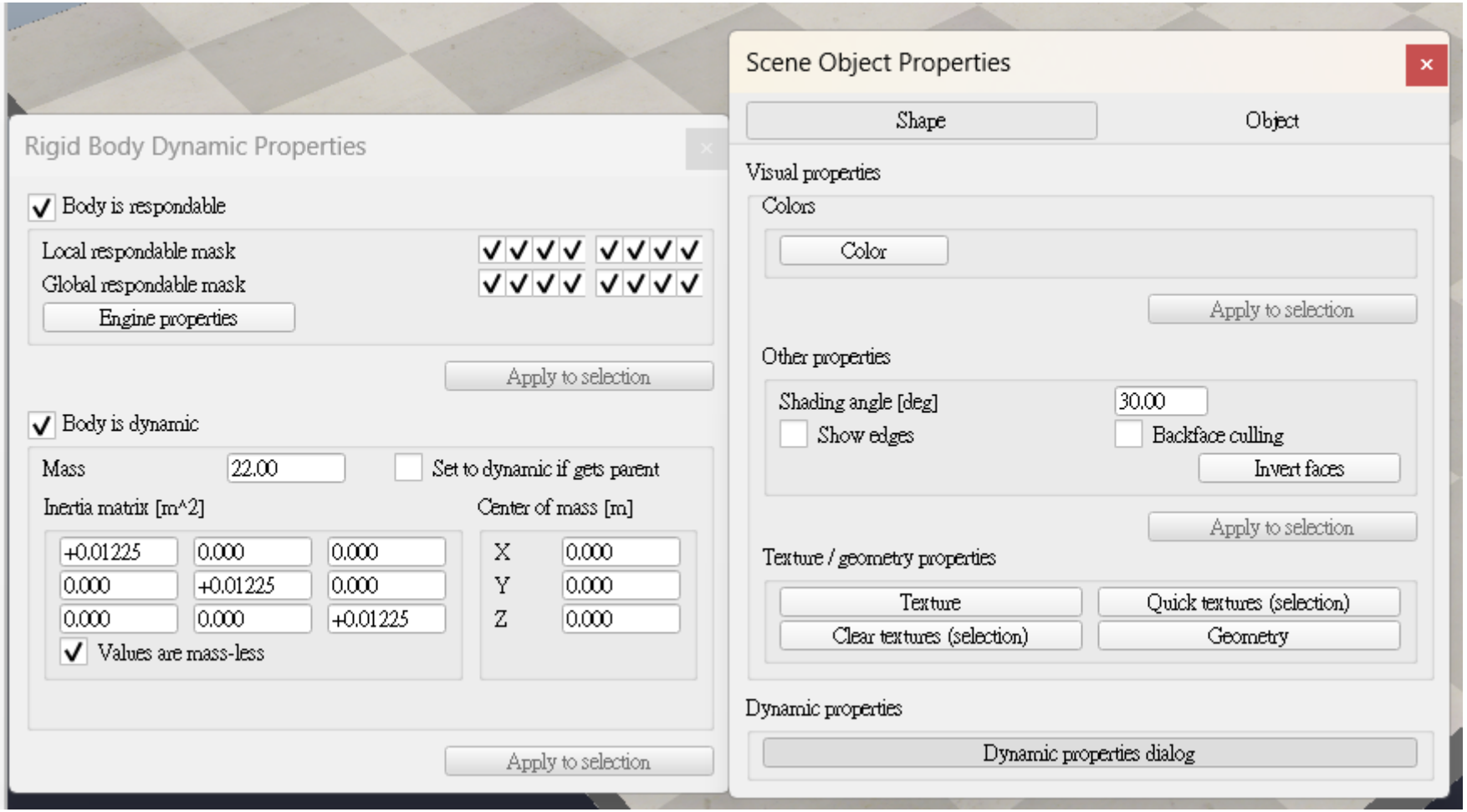
# Start the main control loop
main()
```

發射器:數值-桿子



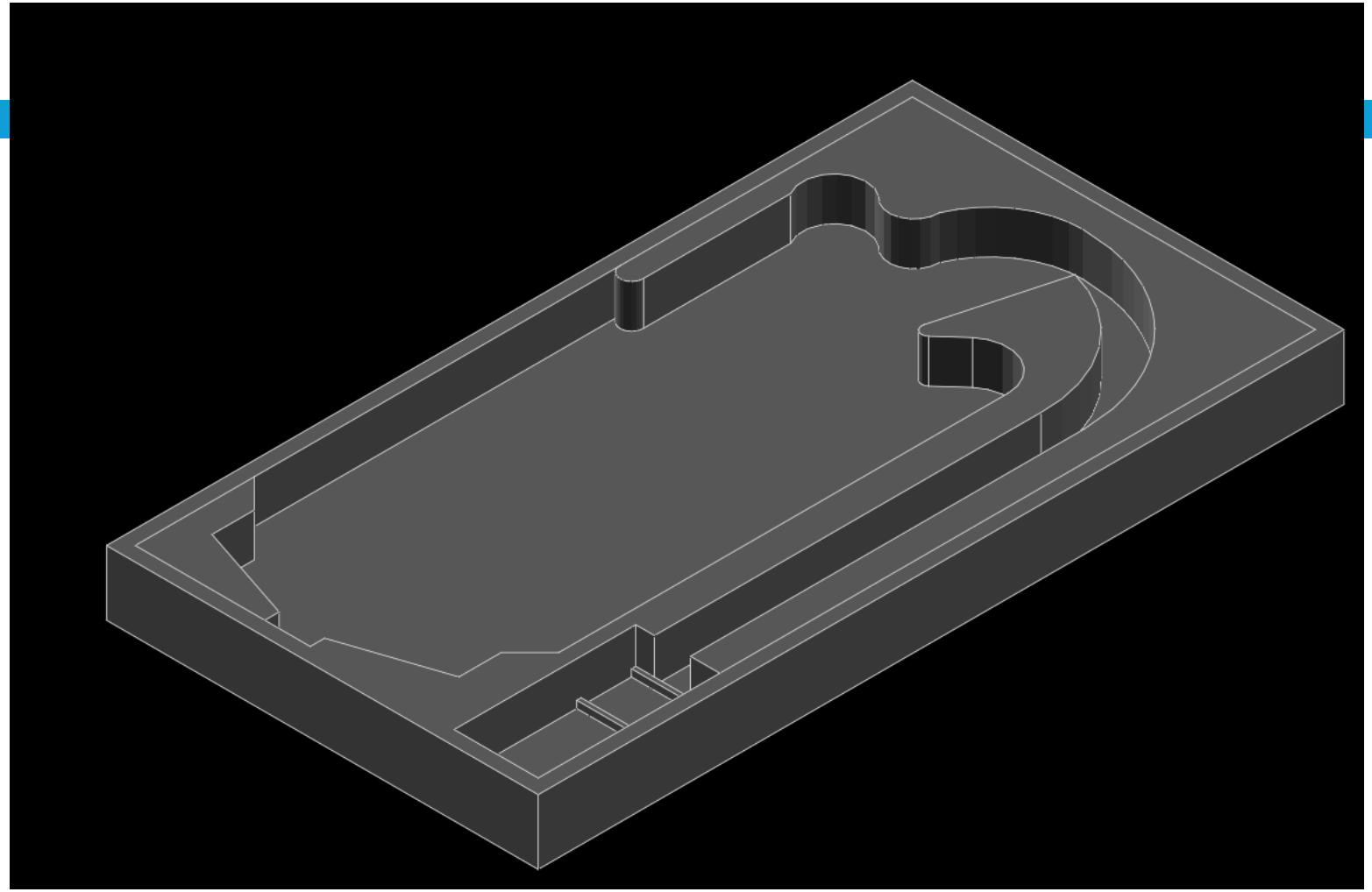
1.距離1.5
*距離要取最後面到馬達距離
2.Force是力
*數字越大擊出的力量越大
3.velocity速度
*速度可以調整桿子擊出速度

發射器:數值-Ball



*Mass是質量
*上下兩個都要勾有碰撞跟作動問題

彈珠檯



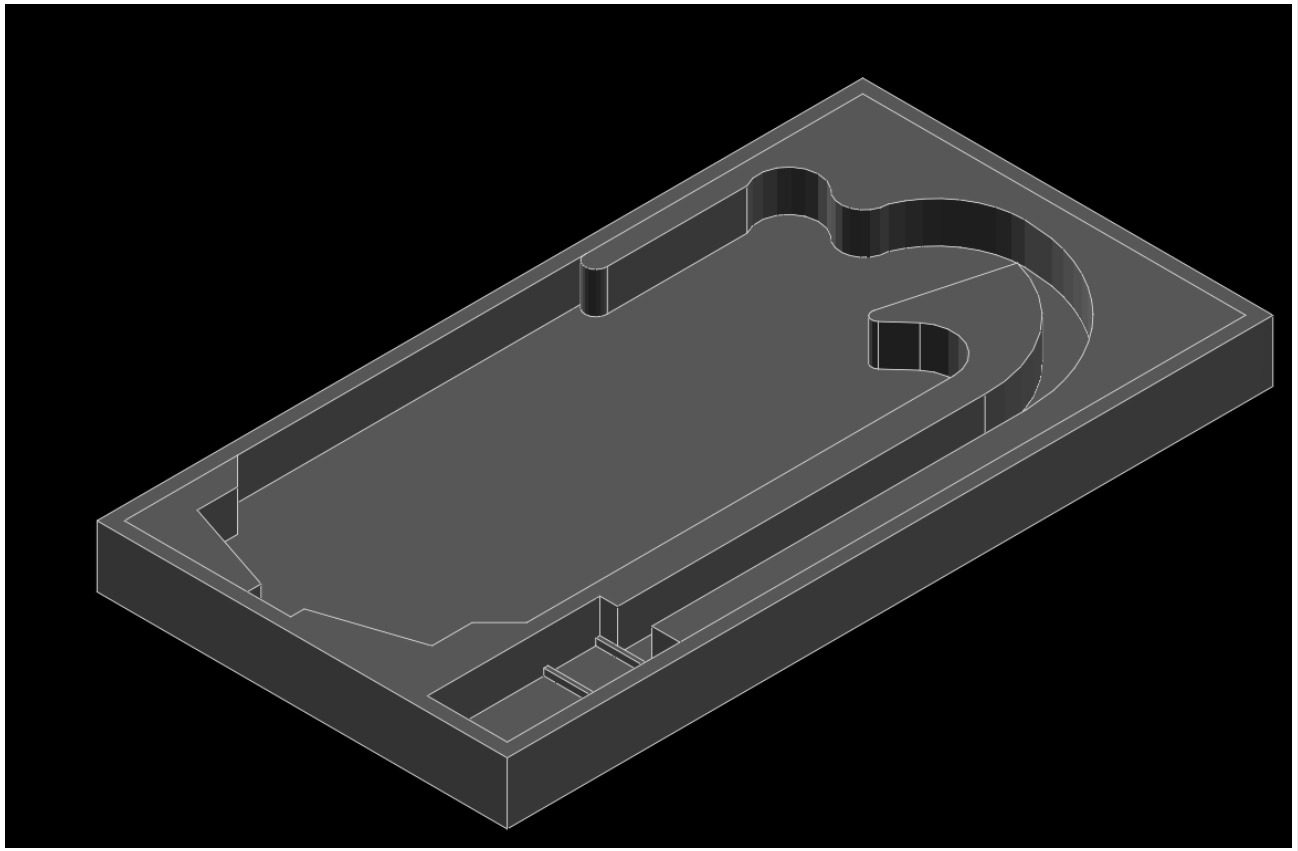
1.設計

2.成品

彈珠檯：設計理念

1.要有通道給球進入

2.底面旁邊要斜坡讓球滾到撥桿



彈珠檯:成品

1.球會順著軌道往下

2.撥桿有時候會先擊球第一下

未解決的問題

1.Bumper的回彈力太大，如果改數值太小球無法彈起，很難抓一個平均值

2.Bumper還是太高看起來很醜，放太低會一直彈起，未來要看看能不能拉近與檯面之間距離