

Copy and paste the following code

Thank you,
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```
import matplotlib.pyplot as plt
import numpy as np
import math
exercise = input('Name of the exercise: ')
if 'preacher' in exercise:
    preacher = int(input('What is the angle of the "preacher bench" (in
degrees)? '))
else:
    preacher = 0
ROM = input('What range of motion are you using (in degrees)? Answer
with: "A to B". ')
Tempo = input('What tempo are you using? Please answer in the format
"0000". ')
Weight = input('What weight are you using? Please answer in kg. ')
Limb_length = input('What is the length of the limb (in m) that is
moving? ')

ROM_start = int(ROM[:2]) + preacher
ROM_end = int(ROM[5:]) + preacher + 1
ROM_in_angle = np.arange(ROM_start, ROM_end, 1)
Max_angle_radian = np.deg2rad(ROM_end - 1)
ROM_sine = np.sin(np.deg2rad(ROM_in_angle))
Mass_Kg = int(Weight)
Radius = float(Limb_length)

Radiant_ROM = math.radians(ROM_end - 1 - ROM_start)
Concentric_Velocity = Radiant_ROM / int(Tempo[2])
Eccentric_Velocity = Radiant_ROM / int(Tempo[0])

Simple_Pendulum = ((2 * math.pi) * math.sqrt(Radius / 9.8))
Complex_Pendulum = Simple_Pendulum * (1 + ((Max_angle_radian ** 2) /
16) + ((11 / 3074) * (Max_angle_radian ** 4)))
Used_Amplitude = 0.25 - (ROM_start / 360)
Gravitational_Velocity = (Radiant_ROM / (Complex_Pendulum *
Used_Amplitude))
Used_Acc = 1 - (Eccentric_Velocity / Gravitational_Velocity)

Concentric = Mass_Kg * Radius * ROM_sine * 9.81 * Concentric_Velocity
print('Concentric')
print(Concentric)
Eccentric = Mass_Kg * Radius * ROM_sine * 9.81 * Used_Acc
print('Eccentric')
print(Eccentric)

p1 = plt.plot(ROM_in_angle, Concentric, 'b', label='Concentric')
p2 = plt.plot(ROM_in_angle, Eccentric, 'g', label='Eccentric')
plt.legend(loc='upper left')
plt.xlabel('Angle (°)')
plt.ylabel('Power (W)')
plt.title(f'Resistance profile of a {exercise}')
plt.show()
```