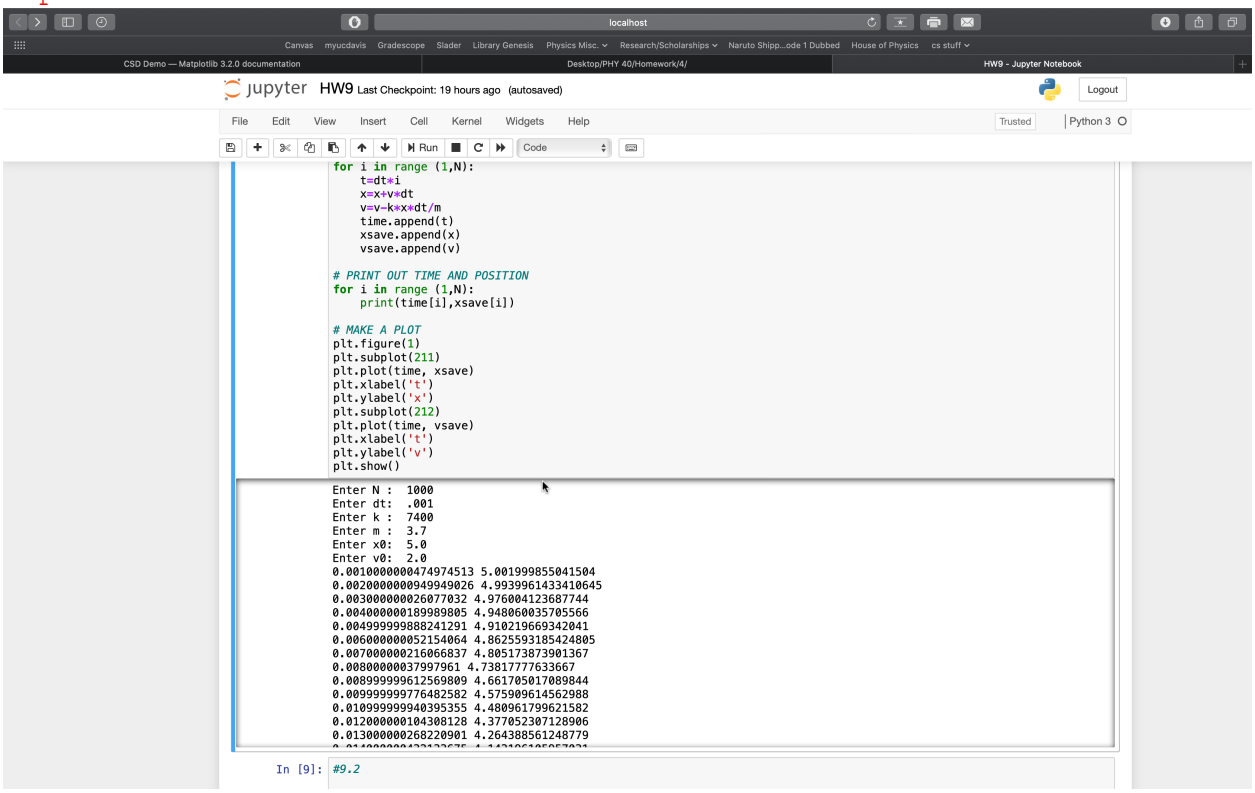
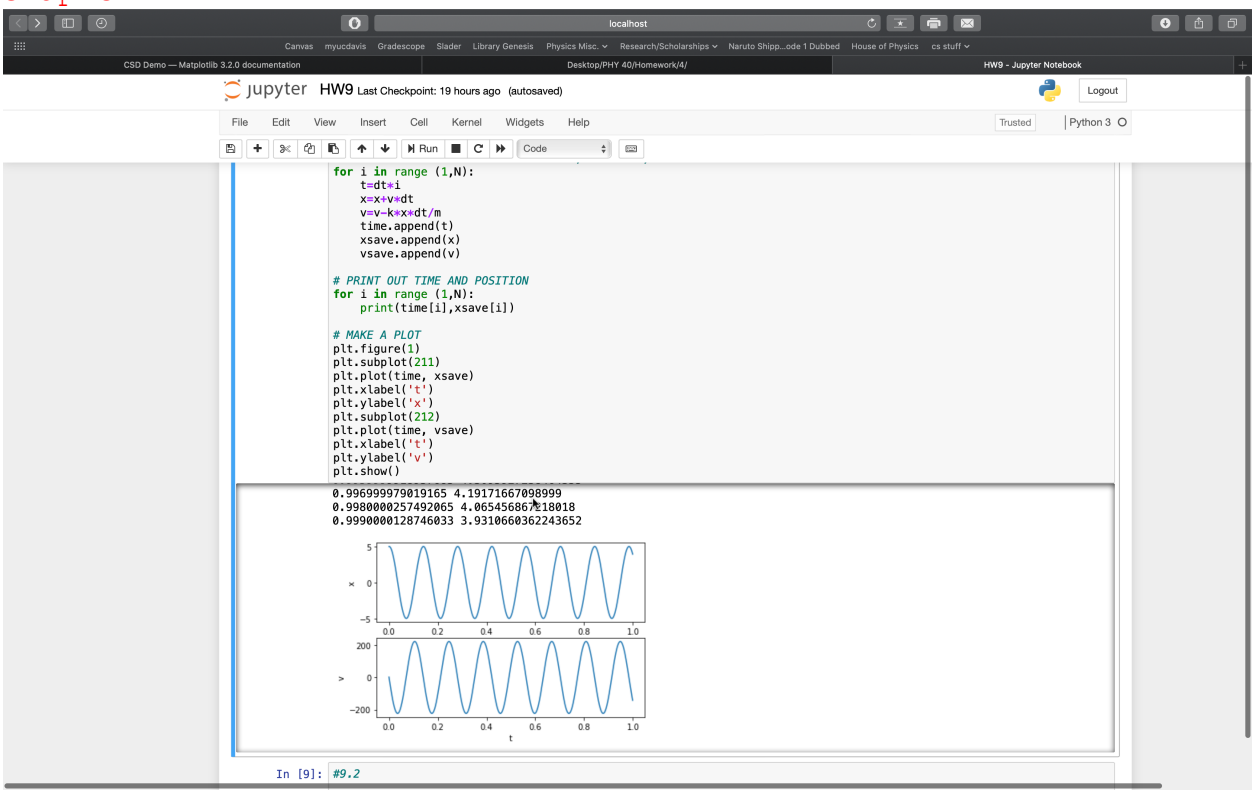
[9_1]

inputs

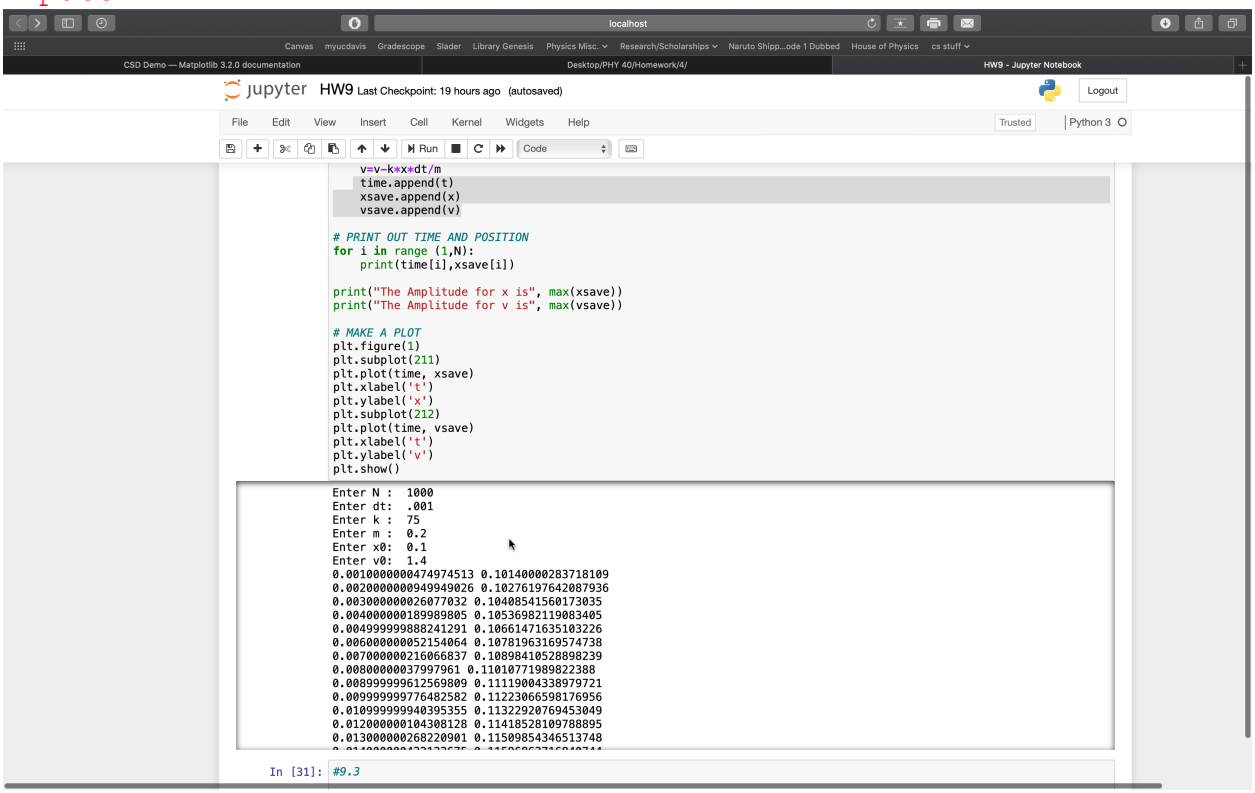


Graphs

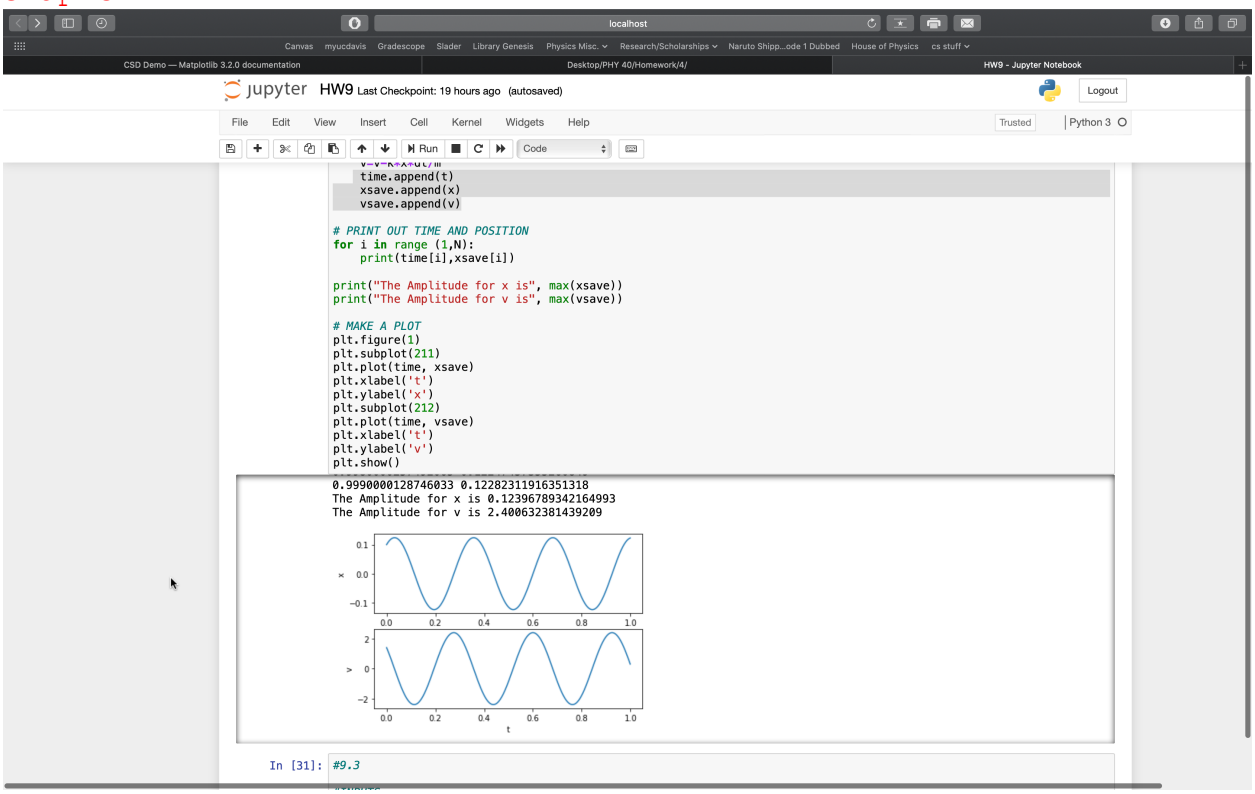


[9_2]

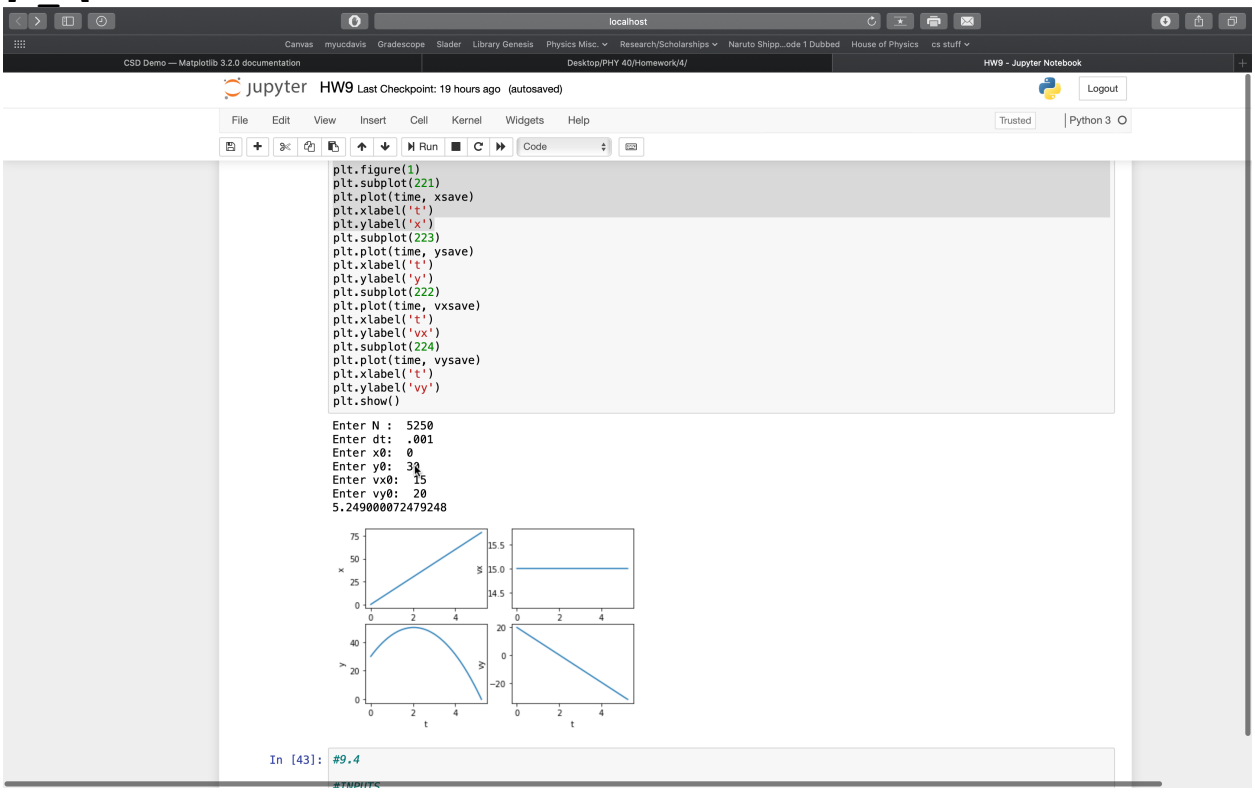
Inputs



Graphs



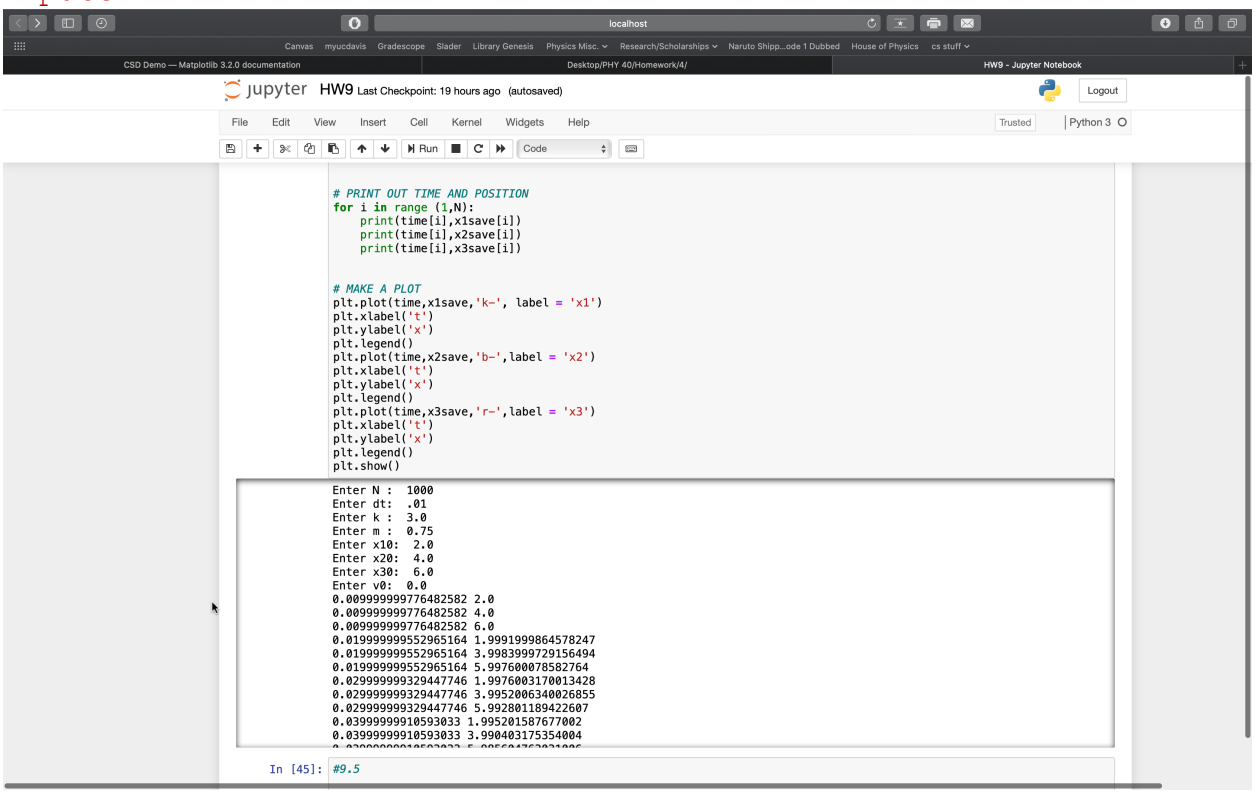
[9_3]



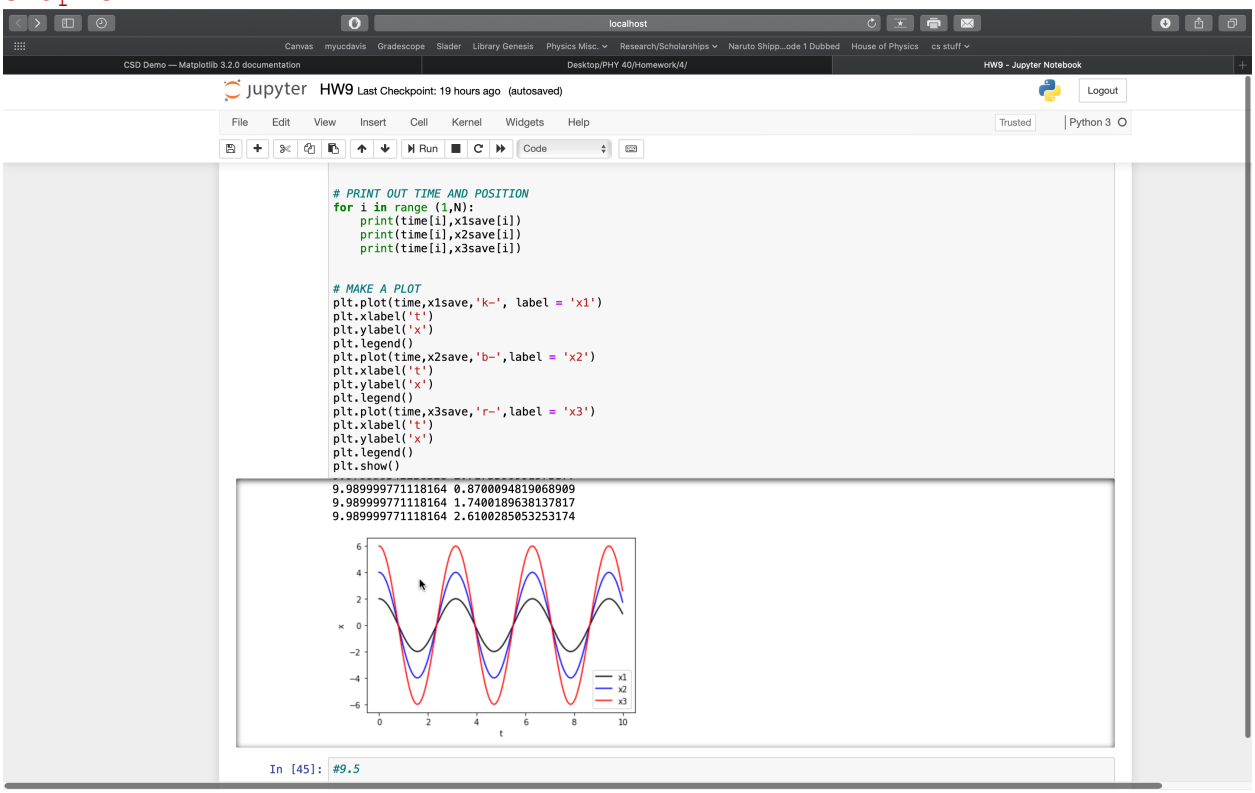
Continued Below

[9_4]

Inputs

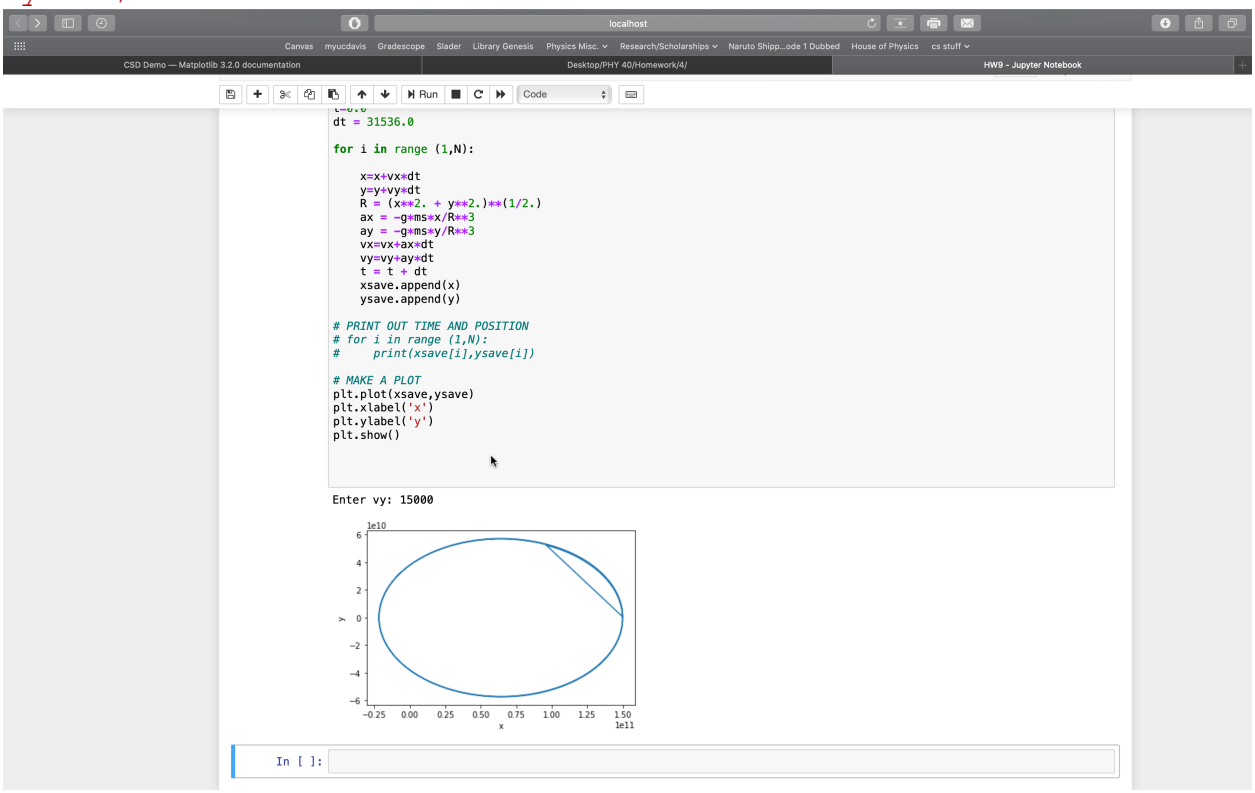


Graphs

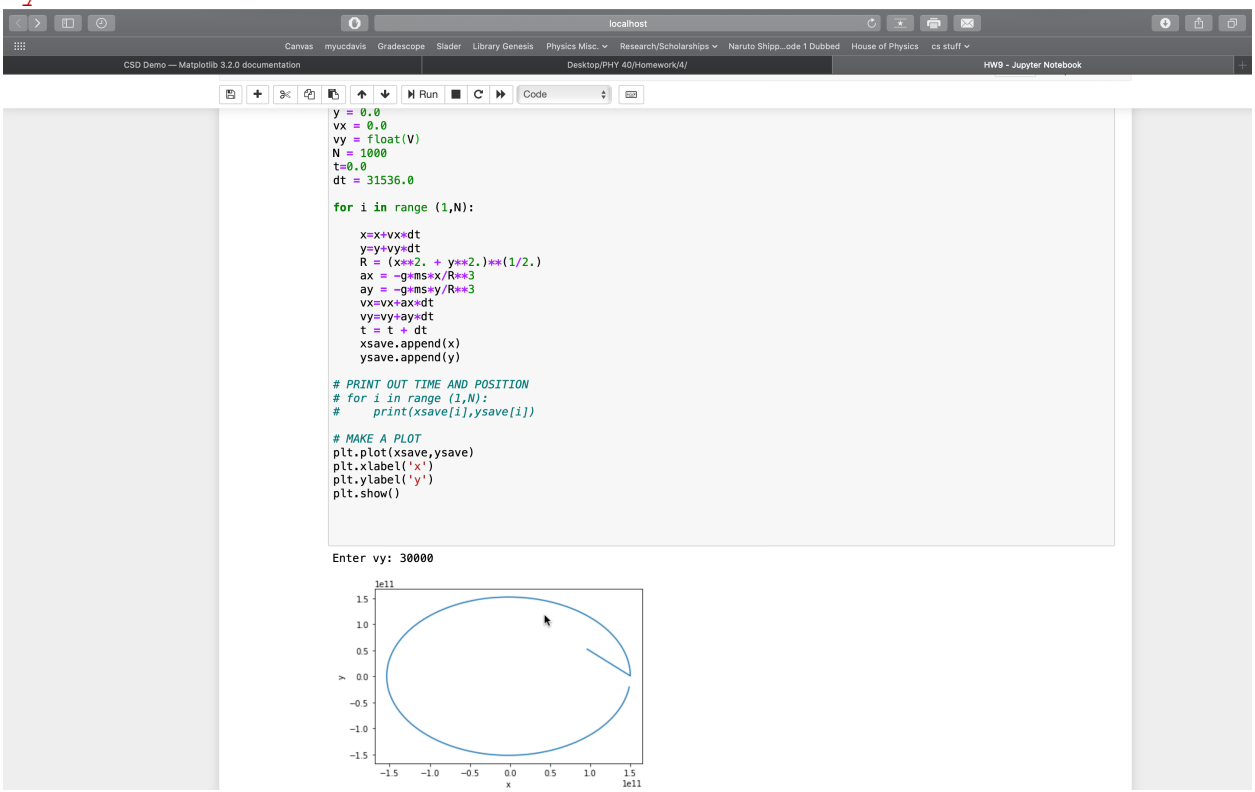


[9_6]

Vy = 1/2V


localhost
Canvas
myucdavis
Gradescope
Slader
Library Genesis
Physics Misc.
Research/Scholarships
Naruto Shipp...ode 1 Dubbed
House of Physics
cs stuff
CSD Demo — Matplotlib 3.2.0 documentation
Desktop/PHY 40/Homework/4/
HW9 - Jupyter Notebook
Run
Code
dt = 31536.0
for i in range (1,N):
x=x+vx*dt
y=y+vy*dt
R = (x**2. + y**2.)**(1/2.)
ax = -g*ms*x/R**3
ay = -g*ms*y/R**3
vx=vx+ax*dt
vy=vy+ay*dt
t = t + dt
xsave.append(x)
ysave.append(y)
# PRINT OUT TIME AND POSITION
# for i in range (1,N):
# print(xsave[i],ysave[i])
# MAKE A PLOT
plt.plot(xsave,ysave)
plt.xlabel('x')
plt.ylabel('y')
plt.show()
Enter vy: 15000
1e10
1e11
In [ ]:

Vy = V


localhost
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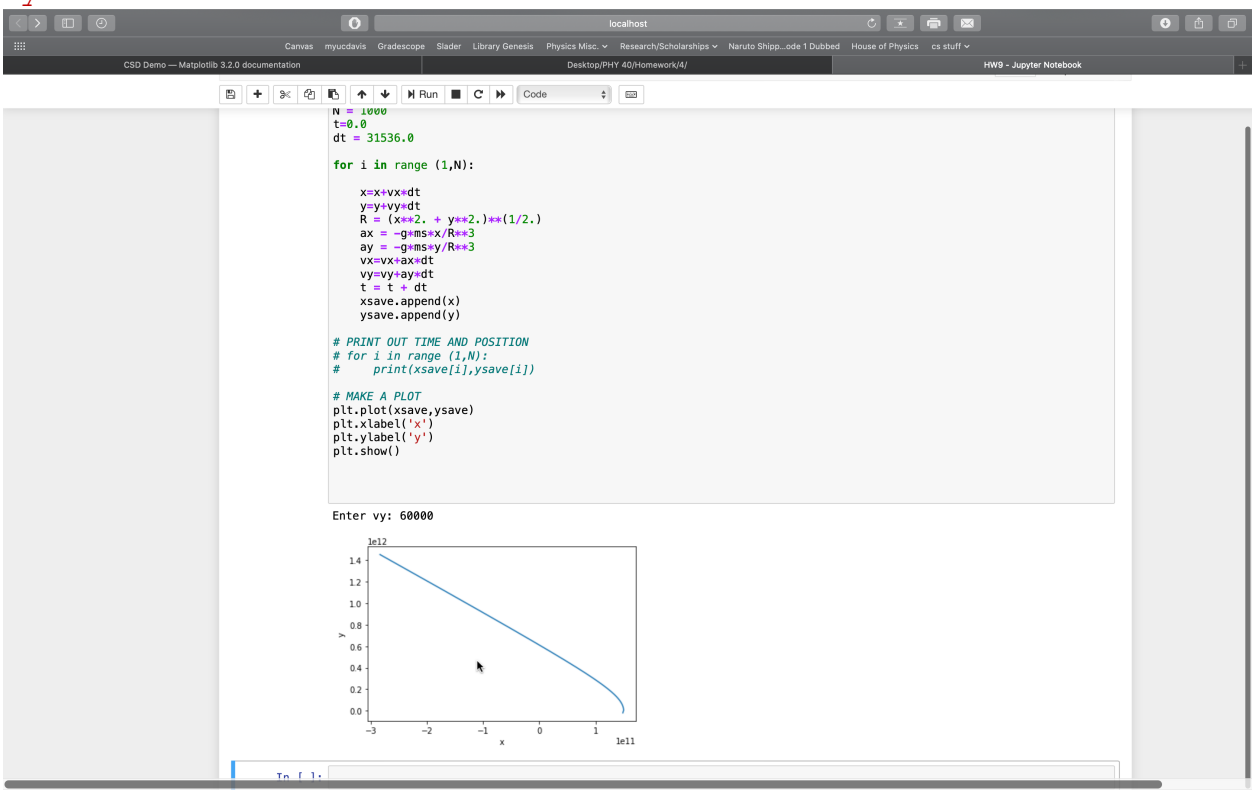
myucdavis
Gradescope
Slader
Library Genesis
Physics Misc.
Research/Scholarships
Naruto Shipp...ode 1 Dubbed
House of Physics
cs stuff
CSD Demo — Matplotlib 3.2.0 documentation
Desktop/PHY 40/Homework/4/
HW9 - Jupyter Notebook
Run
Code
y = 0.0
vx = 0.0
vy = float(V)
N = 1000
t=0.0
dt = 31536.0
for i in range (1,N):
x=x+vx*dt
y=y+vy*dt
R = (x**2. + y**2.)**(1/2.)
ax = -g*ms*x/R**3
ay = -g*ms*y/R**3
vx=vx+ax*dt
vy=vy+ay*dt
t = t + dt
xsave.append(x)
ysave.append(y)
# PRINT OUT TIME AND POSITION
# for i in range (1,N):
# print(xsave[i],ysave[i])
# MAKE A PLOT
plt.plot(xsave,ysave)
plt.xlabel('x')
plt.ylabel('y')
plt.show()
Enter vy: 30000
1e11
1e11

Vy = 2V


localhost
Canvas
myucdavis
Gradescope
Slader
Library Genesis
Physics Misc.
Research/Scholarships
Naruto Shipp...ode 1 Dubbed
House of Physics
cs stuff
CSD Demo — Matplotlib 3.2.0 documentation
Desktop/PHY 40/Homework/4/
HW9 - Jupyter Notebook
Run
Code
N = 1000
t=0.0
dt = 31536.0
for i in range (1,N):
x=x+vx*dt
y=y+vy*dt
R = (x**2. + y**2.)**(1/2.)
ax = -g*ms*x/R**3
ay = -g*ms*y/R**3
vx=vx+ax*dt
vy=vy+ay*dt
t = t + dt
xsave.append(x)
ysave.append(y)
# PRINT OUT TIME AND POSITION
# for i in range (1,N):
# print(xsave[i],ysave[i])
# MAKE A PLOT
plt.plot(xsave,ysave)
plt.xlabel('x')
plt.ylabel('y')
plt.show()
Enter vy: 60000
1e12
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
y
−3
−2
−1
0
1
x
1e11