

[Document title]

[Document subtitle]



[Date]

[Company name]

[Company address]

Contents

[List of Figure 2](#_Toc23809240)

[Problem 01 3](#_Toc23809241)

[Code 3](#_Toc23809242)

[Output 3](#_Toc23809243)

[Problem 02 4](#_Toc23809244)

[Code 4](#_Toc23809245)

[Output 5](#_Toc23809246)

# List of Figure

[Figure 1: Graph 2](#_Toc23809109)

[Figure 2: Time to touch earth 3](#_Toc23809110)

[Figure 3: Displacement Vs Time 4](#_Toc23809111)

[Figure 4: Normalize Graph 5](#_Toc23809112)

# Problem 01

## Code

clc

clear all

V0=20;

theta=60;

g=9.8;

Vx=V0\*cosd(theta);

Vy=V0\*sind(theta);

t0=0;

t1=(2\*V0\*sind(theta))/g

time=linspace(t0,t1,100);

Output=V0\*sind(theta).\*time - (g.\*time.^2)./2;

plot(time,Output)

xlabel('Time ')

ylabel('Height')

title ('Trajectory')

grid on

## Output

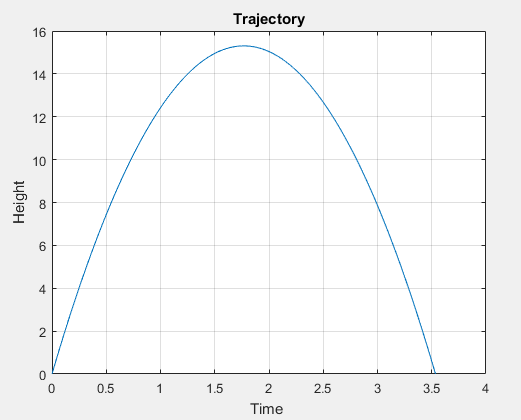


Figure : Graph

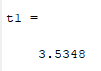


Figure : Time to touch earth

# Problem 02

## Code

clc

clear all

close all

A=20;

w=3;

time=0:0.01:20;

displacement=A\*sin(w.\*time);

figure(1)

plot(time,displacement)

title ('Original Plot ')

xlabel('time')

ylabel('Displacement')

for i=1:length(displacement)

if (displacement(i)>0)

displacement(i)=max(displacement);

else

displacement(i)=0;

end

end

figure (2)

histogram (displacement)

title('Count the Max and zero in displacement')

xlabel('time')

ylabel('Quantity')

## Output

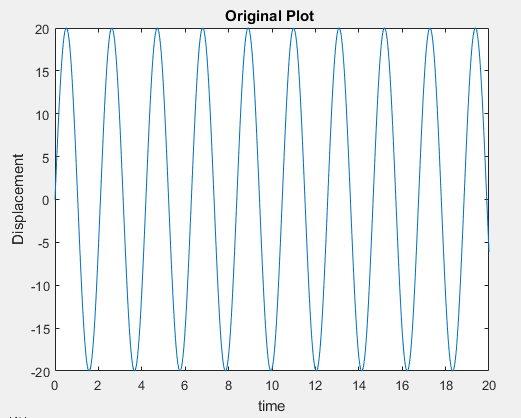


Figure : Displacement Vs Time

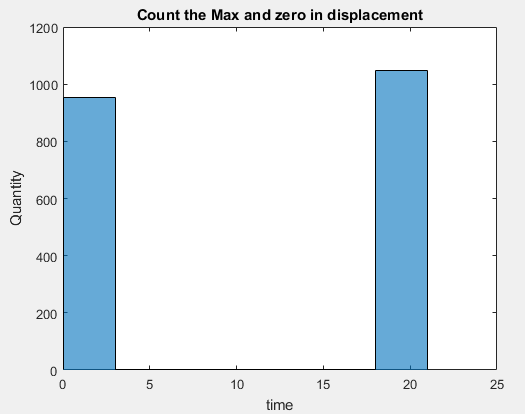


Figure : Normalize Graph