
Tyler Elvis 3/18/24 ENRG 108

Table of Contents

Lab 7	1
Questions	1
work	1

Lab 7

```
clc, clear
format short, format compact
```

Questions

```
%Goal: plot and compare prices of Hybrid to gas cars

%Assume "cost to own" = Purchase Cost + Gasoline Cost
%(a) Assume gas cost is $3.00 per gallon.
%(b) Find the "cost to own" as a function of the number of miles driven.
%Use 200,000 total miles for the calculations.
%(c) Plot the results on an x-y graph.
%The point where the 2 lines meet is the break-even point.
%(d) Use the ginput function to pick the break-even point off the graph.
%(e) Use the sprintf function to create a string identifying the break-even
mileage point and use the
%result to create a text box annotation on the graph.
%(f) Position the text box using the gtext function
%The result should look similar to the plot below
```

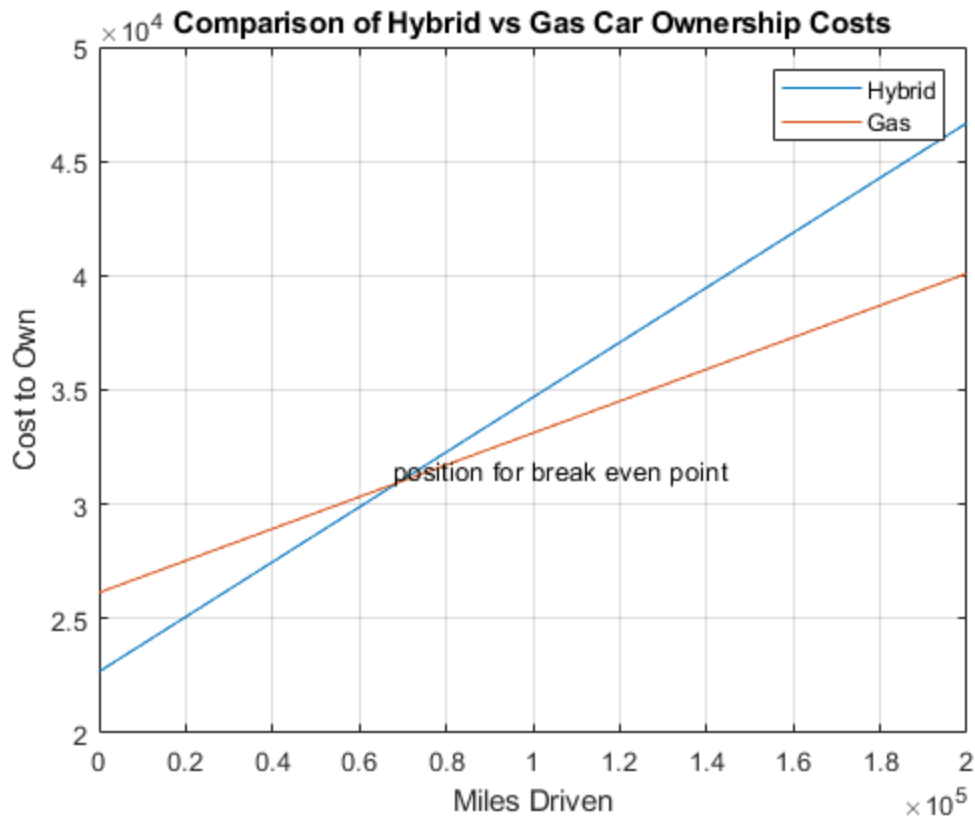
work

```
Cost_Camery = 22680;
Cost_hybrid = 26140;
Camry_MPG = 25;
Hybrid_MPG = 43;
Gas_Cost = 3;
Miles = 0:1000:200000;

Total_cost_C = Miles/Camry_MPG*3+Cost_Camery;
Total_Cost_H = Miles/Hybrid_MPG*3+Cost_hybrid;

plot(Miles,Total_cost_C, Miles, Total_Cost_H)
grid on
xlabel('Miles Driven');
ylabel('Cost to Own');
title('Comparison of Hybrid vs Gas Car Ownership Costs');
legend('Hybrid', 'Gas');
```

```
A = ginput(1);  
sprintf('Break Even Point Is %4.2f ',A)  
gtext('position for break even point')  
  
ans =  
    'Break Even Point Is 67857.14 Break Even Point Is 31014.60 '
```



Published with MATLAB® R2023b