Assignment day 3 Drinks and Heat Transfer Analysis

Table of Contents

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Qeustions Part A

```
temp_drinks = input('What is the temperature of the drinks right now?
 ');
temp_fridge = input('What is the temperature of the fridge? ');
temp_drinkable = input('What temperature would you like the drinks to
 be? ');
```

Calculating time to cool part B

```
k=.35;

timestep1 = ((temp_drinkable) - (temp_fridge))/(temp_drinks -
 temp_fridge); % 'Time' before taking the natural log
timestep2 = log(timestep1); % 'Time' after taking natural log
timefinal = timestep2/-k;  % Final time after dividing by constant k.
 First two steps were working through the equation.
```

Output for final time Part D

```
fprintf('It should take around %f minutes for your drinks to cool
 from %g degrees F to %x degrees F.', timefinal, temp_drinks,
 temp_drinkable)
```

Vector for time Part E

```
time_vector = linspace(0,2.*timefinal,20); % The vector for time it
 takes for the dirnks to cool
x = fliplr(time_vector); % Makes the vector a decending function as
 opposed to a ascending vector.
y = linspace(temp_drinkable,temp_drinks,20); % Vector for the starting
 temp ending with the final temp
plot(x,y, 'rd') % Plots the 2 vectors with red and diamond
title('Time vs. Temperature of drinks') % Title of the plot
xlabel('Time') % Names the x - axis time
```

```
ylabel('Temperature in degrees Farenheit') % Names the y - axis
 Temperature of drink.
```

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