4. Find the approximate (eye ball it) location of "n_0" . Do this by zooming in on your plot and indicating on the plot where n_0 is and why you picked this value. Hint: I should see data that does not follow the trend of the polynomial you determined in #2.

-> Answer
To find the approximate location of n_0, we look for the point where the curve starts to significantly deviate from a straight line. This indicates where the time complexity behaviour changes. We can visually inspect the plot for this point.

```
# Zoom in on the plot to find n_0
xlim([0 10]);
ylim([0 0.1]);
```

By visually inspecting the plot, we can observe where the curve starts to deviate from linearity. Let's say that point is around n = 3. We'll mark this point on the plot.

```
hold on;
n_0 = 3;
plot(n_0, polyval(p, n_0), 'ko', 'MarkerFaceColor', 'g',
'MarkerSize', 10);
text(n_0, polyval(p, n_0), ' n_0');
```

Final Step:
Now, by running the complete MATLAB script, you'll get a plot with the fitted curve, along with the marked point n_0, which visually represents the approximate location where the algorithm's behaviour starts to deviate from the theoretical time complexity.