Homework 2

1. You can access the template for this homework at: https://colab.research.google.com/drive/1uFj0H_inyReSI5zqFwAeHzLGqlj4tZBM?usp=sharing

2. This week, we discussed:
    a. the workings of Ternary Search, and Interpolation Search, and their time complexity.
    b. We also compared the time complexity functions in linear, binary, ternary and interpolation search in desmos, and investigated pros and cons of these methods.
    c. We answered the question - if binary makes it so much faster than linear, why not continuously increase the number of partitions?

    For homework, please use the pseudocode discussed in class to write a Python function that implements the algorithms for a sorted array.

3. This week, we also included some code to measure the runtimes - a useful technique to see how our search algorithms are performing in the real world.

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HINT for Interpolation Search:

pos = low + ((high - low) * (x - arr[low])) / (arr[high] - arr[low])
```

HW Policy:
As mentioned in class there are plenty of sites on the internet (including generative AI tools) with descriptions of the algorithms, and in many cases, the solutions to this problem. To maximize learning, feel free to use resources to review the material discussed in class, but attempt to write the code on your own. The exercises will strengthen your understanding of the material, and Python in general.