

# Capstone 0

## NumPy Exercise

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# Section 1

## Data Analysis

1. Generate a matrix that shows daily temperature highs for two cities (City A & City B) over a week.  
You need to generate a 2D NumPy array named temperatures with shape (7, 2). (temperatures between -10 and 30).
2. Print the average temperature of each city

# Section 2

## Data Analysis

1. Plot Load `num_data.csv` file into an array
2. Get the shape
3. Reshape the matrix to a compatible (row,col) 2D matrix.
4. Define a new array that has values from the first array where number <10

# Section 3

## Data Analysis

1. Define the following array:

```
sales_data = np.array([
    [50, 60, 55, 52, 60, 62, 65, 70, 75, 80, 85, 90], # Year 1
    [95, 100, 110, 105, 115, 120, 125, 130, 140, 150, 160, 170] # Year 2
])
```

2. Calculate total sales of each year
3. Compute the difference in sales between Year 2 and Year 1 for each month.