Searching Algorithms Exercise #2

Exercise 2:

Scenario

In this exercise, you will implement a Binary Search.

Task 1: Creating an Insertion Sort

1. On the Jupyter Index page, click **File > New Notebook > Python 3**.
2. Copy the following code into the notebook

```
def search_binary(sorted_array, target):
    left = 0
    right = len(sorted_array) - 1
    while left <= right:
        midpoint = left + (right - left) // 2
        current = sorted_array[midpoint]
        if current == target:
            return midpoint
        else:
            if target < current:
                right = midpoint - 1
            else:
```

```
            left = midpoint + 1

    return None



target = 5

sorted_array = [0, 1, 2, 3, 4, 5]

result = search_binary(sorted_array, target)

if result is not None:

    print('Value {} found at position {} using binary search'.format(target, result+1))

else:

    print('Not found')
```

1. To run the code, click **Run**.
2. View the results.
3. At what position was the target value found?

Task 2: short description of task

1. The 16th line of code reads **target = 5**
2. Change the target value from **5** to **8**
3. To run the code, click **Run**.
4. View the results.
5. Was the target value found?

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