

□ Binary Search in Python

```
# Create a sorted array named 'numbers'
numbers = [5, 10, 15, 20, 25, 30, 35, 40]

# Define the binary search function
def binary_search(arr, key):
    left = 0
    right = len(arr) - 1

    # Loop until left is greater than right
    while left <= right:
        mid = (left + right) // 2 # Find the middle index

        if arr[mid] == key:
            return mid # If the key is found, return its index
        elif arr[mid] < key:
            left = mid + 1 # Search in the right half
        else:
            right = mid - 1 # Search in the left half

    return -1 # If key not found, return -1

# Call the function and give the key to search
key = 35
result = binary_search(numbers, key)

# Print the result
if result != -1:
    print(f"{key} found at index {result}")
else:
    print(f"{key} not found in the array")

35 found at index 6
```