

```
"/Users/brady/Library/Mobile Documents/com~apple~CloudDocs/Github/  
Algorithms_And_Discrete_Structures/module_5/project_5/.venv/bin/python" /Users/brady/  
Library/Mobile Documents/com~apple~CloudDocs/Github/  
Algorithms_And_Discrete_Structures/module_5/project_5/BubbleSort.py
```

```
+++++++ Array-1 ++++++
```

```
Iteration Kth = 1
```

```
[44, 63, 17, 20, 77, 84, 6, 39, 52, 99]
```

```
Comparisons: 9
```

```
Swaps:6
```

```
Iteration Kth = 2
```

```
[44, 17, 20, 63, 77, 6, 39, 52, 84, 99]
```

```
Comparisons: 8
```

```
Swaps:5
```

```
Iteration Kth = 3
```

```
[17, 20, 44, 63, 6, 39, 52, 77, 84, 99]
```

```
Comparisons: 7
```

```
Swaps:5
```

```
Iteration Kth = 4
```

```
[17, 20, 44, 6, 39, 52, 63, 77, 84, 99]
```

```
Comparisons: 6
```

```
Swaps:3
```

```
Iteration Kth = 5
```

```
[17, 20, 6, 39, 44, 52, 63, 77, 84, 99]
```

```
Comparisons: 5
```

```
Swaps:2
```

```
Iteration Kth = 6
```

```
[17, 6, 20, 39, 44, 52, 63, 77, 84, 99]
```

```
Comparisons: 4
```

```
Swaps:1
```

```
Iteration Kth = 7
```

```
[6, 17, 20, 39, 44, 52, 63, 77, 84, 99]
```

```
Comparisons: 3
```

```
Swaps:1
```

```
=====
```

```
Returned early on Iteration Kth = 8
```

```
Array: [6, 17, 20, 39, 44, 52, 63, 77, 84, 99]
```

```
Total comparisons: 44
```

```
Total swaps: 23
```

```
+++++++ Array-2 ++++++
```

```
Iteration Kth = 1
```

```
[52, 6, 39, 20, 77, 17, 84, 44, 63, 99]
```

```
Comparisons: 9
```

```
Swaps:7
```

```
Iteration Kth = 2
```

```
[6, 39, 20, 52, 17, 77, 44, 63, 84, 99]
```

```
Comparisons: 8
```

```
Swaps:6
```

```
Iteration Kth = 3
```

```
[6, 20, 39, 17, 52, 44, 63, 77, 84, 99]
```

```
Comparisons: 7
```

```
Swaps:4
```

```
Iteration Kth = 4
```

```
[6, 20, 17, 39, 44, 52, 63, 77, 84, 99]
```

Comparisons: 6
Swaps:2
Iteration Kth = 5
[6, 17, 20, 39, 44, 52, 63, 77, 84, 99]
Comparisons: 5
Swaps:1
=====
Returned early on Iteration Kth = 6
Array: [6, 17, 20, 39, 44, 52, 63, 77, 84, 99]
Total comparisons: 39
Total swaps: 20

+++++++ Array-3 +++++++
=====
Returned early on Iteration Kth = 1
Array: [6, 17, 20, 39, 44, 52, 63, 77, 84, 99]
Total comparisons: 9
Total swaps: 0

Process finished with exit code 0