

Project1 Binary Search:

A1: Searching for 44

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/csc6013_algorithm
[99, 67, 56, 51, 44, 39, 38, 23, 21, 17, 11, 2], mid = 39
[99, 67, 56, 51, 44], mid = 56
[51, 44], mid = 51
[44], mid = 44
44 is at index 4
```

A1: Searching for 56

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/csc6013
[99, 67, 56, 51, 44, 39, 38, 23, 21, 17, 11, 2], mid = 39
[99, 67, 56, 51, 44], mid = 56
56 is at index 2
```

A1: Searching for 42

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/csc6
[99, 67, 56, 51, 44, 39, 38, 23, 21, 17, 11, 2], mid = 39
[99, 67, 56, 51, 44], mid = 56
[51, 44], mid = 51
[44], mid = 44
[], mid = 44
42 is at index None
```

A2: Searching for -1

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/
[9, 7, 6, 4, 2, 0, -1, -3, -5, -8, -9], mid = 0
[-1, -3, -5, -8, -9], mid = -5
[-1, -3], mid = -1
-1 is at index 6
```

A2: Searching for -7

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/
[9, 7, 6, 4, 2, 0, -1, -3, -5, -8, -9], mid = 0
[-1, -3, -5, -8, -9], mid = -5
[-8, -9], mid = -8
[], mid = -5
-7 is at index None
```

Project 2 Max Element:

A3

```
(base) c\arkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/csc6013_algoritms_and_discrete_structures/week1
Start: 0, End: 9
Start: 0, End: 4
Start: 0, End: 2
Start: 0, End: 1
Start: 0, End: 0
Start: 1, End: 1
Returning: 44
Start: 2, End: 2
Returning: 44
Start: 3, End: 4
Start: 3, End: 3
Start: 4, End: 4
Returning: 17
Returning: 17
Start: 5, End: 9
Start: 5, End: 7
Start: 5, End: 6
Start: 5, End: 5
Start: 6, End: 6
Returning: 84
Start: 7, End: 7
Returning: 6
Start: 8, End: 9
Start: 8, End: 8
Start: 9, End: 9
Returning: 39
Returning: 6
Returning: 6
The minimum number is 6 at index 7
```

A4

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/csc6013_algorithms_and_discrete_  
Start: 0, End: 9  
Start: 0, End: 4  
Start: 0, End: 2  
Start: 0, End: 1  
Start: 0, End: 0  
Start: 1, End: 1  
Returning: 52  
Start: 2, End: 2  
Returning: 6  
Start: 3, End: 4  
Start: 3, End: 3  
Start: 4, End: 4  
Returning: 20  
Returning: 6  
Start: 5, End: 9  
Start: 5, End: 7  
Start: 5, End: 6  
Start: 5, End: 5  
Start: 6, End: 6  
Returning: 17  
Start: 7, End: 7  
Returning: 17  
Start: 8, End: 9  
Start: 8, End: 8  
Start: 9, End: 9  
Returning: 44  
Returning: 17  
Returning: 6  
The minimum number is 6 at index 2
```

A5

```
(base) clarkes@LAPTOP-1W2BCY3:/mnt/c/Users/clarkes/Documents/mack/mscs/csc6013_algorithms_and_discrete_structures/week4_Re
Start: 0, End: 9
Start: 0, End: 4
Start: 0, End: 2
Start: 0, End: 1
Start: 0, End: 0
Start: 1, End: 1
Returning: 6
Start: 2, End: 2
Returning: 6
Start: 3, End: 4
Start: 3, End: 3
Start: 4, End: 4
Returning: 39
Returning: 6
Start: 5, End: 9
Start: 5, End: 7
Start: 5, End: 6
Start: 5, End: 5
Start: 6, End: 6
Returning: 52
Start: 7, End: 7
Returning: 52
Start: 8, End: 9
Start: 8, End: 8
Start: 9, End: 9
Returning: 84
Returning: 52
Returning: 6
The minimum number is 6 at index 0
```