

Assignment 4

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Replit link: <https://replit.com/join/nehlgomivr-albertoruizbern>

Iterative Binary Search

```
→ linear-data-struct-algorithms git:(master) /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-18.0.2.1.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/aruiz/Library/Application\ Support/Code/User/workspaceStorage/0cc13e5f88dacb1a54bb73d0e98575ae/redhat.java/jdt_ws/linear-data-struct-algorithms_b10ed582/bin BinarySearchTest
This array is sorted.
[4, 5, 6, 15, 18, 28, 30, 33, 45, 49, 54, 65, 74, 78, 82, 83, 83, 86, 86, 88]
Please enter an integer value (-1 to quit): 28
4 5 6 15 18 28 30 33 45 49* 54 65 74 78 82 83 83 86 86
4 5 6 15 18* 28 30 33
28 30* 33

28 was found in position 5
Please enter an integer value (-1 to quit): 31
4 5 6 15 18 28 30 33 45 49* 54 65 74 78 82 83 83 86 86
4 5 6 15 18* 28 30 33
28 30* 33
33*
31 was not found
Please enter an integer value (-1 to quit): 86
4 5 6 15 18 28 30 33 45 49* 54 65 74 78 82 83 83 86 86
54 65 74 78 82* 83 83 86 86
83 83 86* 86
86 was found in position 17
Please enter an integer value (-1 to quit): -1
→ linear-data-struct-algorithms git:(master) █
```

Selection Sort

```
→ linear-data-struct-algorithms git:(master) /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-18.0.2.1.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/aruiz/Library/Application\ Support/Code/User/workspaceStorage/0cc13e5f88dacb1a54bb73d0e98575ae/redhat.java/jdt_ws/linear-data-struct-algorithms_b10ed582/bin SelectionSortTest
Unsorted Array: [88, 71, 13, 32, 15, 82, 44, 29, 25, 31]

after pass 1: 88 71 13* 32 15 82 44 29 25 31
--
after pass 2: 13 71 88 32 15* 82 44 29 25 31
-- --
after pass 3: 13 15 88 32 71 82 44 29 25* 31
-- -- --
after pass 4: 13 15 25 32 71 82 44 29* 88 31
-- -- -- --
after pass 5: 13 15 25 29 71 82 44 32 88 31*
-- -- -- -- --
after pass 6: 13 15 25 29 31 82 44 32* 88 71
-- -- -- -- -- --
after pass 7: 13 15 25 29 31 32 44* 82 88 71
-- -- -- -- -- -- --
after pass 8: 13 15 25 29 31 32 44 82 88 71*
-- -- -- -- -- -- --
after pass 9: 13 15 25 29 31 32 44 71 88 82*
-- -- -- -- -- -- --

Sorted Array: [13, 15, 25, 29, 31, 32, 44, 71, 82, 88]
→ linear-data-struct-algorithms git:(master) █
```

Insertion Sort

```
→ linear-data-struct-algorithms git:(master) x cd /Users/aruiz/Desktop/Code/linear-data-struct-algorithms ; /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-18.0.2.1.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/aruiz/Library/Application\ Support/Code/User/workspaceStorage/0cc13e5f88dacb1a54bb73d0e98575ae/redhat.java/jdt_ws/linear-data-struct-algorithms_b10ed582/bin InsertionSortTest
Unsorted Array: [22, 69, 46, 90, 63, 76, 47, 43, 28, 54]

after pass 1: 22 69* 46 90 63 76 47 43 28 54
               __ __
after pass 2: 22 69* 69 90 63 76 47 43 28 54
               __ __
after pass 3: 22 46 69 90* 63 76 47 43 28 54
               __ __ __
after pass 4: 22 46 69* 69 90 76 47 43 28 54
               __ __ __
after pass 5: 22 46 63 69 90* 90 47 43 28 54
               __ __ __
after pass 6: 22 46 63* 63 69 76 90 43 28 54
               __ __ __
after pass 7: 22 46* 46 47 63 69 76 90 28 54
               __ __ __
after pass 8: 22 43* 43 46 47 63 69 76 90 54
               __ __ __
after pass 9: 22 28 43 46 47 63* 63 69 76 90
               __ __ __

Sorted Array: [22, 28, 43, 46, 47, 54, 63, 69, 76, 90]
→ linear-data-struct-algorithms git:(master)
```

Bubble Sort

```
→ linear-data-struct-algorithms git:(master) /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-18.0.2.1.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/aruiz/Library/Application\ Support/Code/User/workspaceStorage/0cc13e5f88dacb1a54bb73d0e98575ae/redhat.java/jdt_ws/linear-data-struct-algorithms_b10ed582/bin BubbleSortTest
Unsorted array: [40, 26, 49, 10, 76, 78, 15, 23, 41, 41]
Sorted array: [10, 15, 23, 26, 40, 41, 41, 49, 76, 78]
→ linear-data-struct-algorithms git:(master)
```