

MITx: 6.00.1x Introduction to Computer Science and Programming Using Python

Help

<u>Course</u> > <u>Week 6: Algorithmic Complexity</u> > <u>Problem Set 6</u> > Problem 6

Problem 6

☐ Bookmark this page

Problem 6-1

1/1 point (graded)

Answer the questions below based on the following sorting function. If it helps, you may paste the code in your programming environment. Study the output to make sure you understand the way it sorts.

Does this function sort the list in increasing or decreasing order? (items at lower indices being smaller means it sorts in increasing order, and vice versa)

■ Increasing	
--------------	--

Decreasing

Submit You have used 1 of 1 attempt

Problem 6-2

1/1 point (graded)

What is the worst case time complexity of swapSort? Consider different kinds of lists when the length of the list is large.

- $lacksquare O(n^2) \checkmark$
- \bigcirc O(n)
- $\bigcirc \ O(\log(n))$
- *O*(1)

Submit You have used 1 of 1 attempt

Problem 6-3

1/1 point (graded)

If we make a small change to the line for j in range(i+1, len(L)): such that the code becomes:

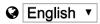
What happens to the behavior of swapSort with this new code?

- No change
- modSwapSort now orders the list in descending order for all lists.
- modSwapSort now orders the list in descending order for SOME lists but not all

modSw	apSort enters an infinite loop.	
Submit	You have used 1 of 1 attempt	
Problem /1 point (gra What happe		
	nd worst cases stay the same.✔	
	case stays the same but best case changes. nd worst cases change.	
Submit	You have used 1 of 1 attempt	
Problem	6 Set 6 / Problem 6	Show Discussion

© All Rights Reserved





© 2012–2017 edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open edX logos are registered trademarks or trademarks of edX Inc. | 粤ICP备17044299号-2

