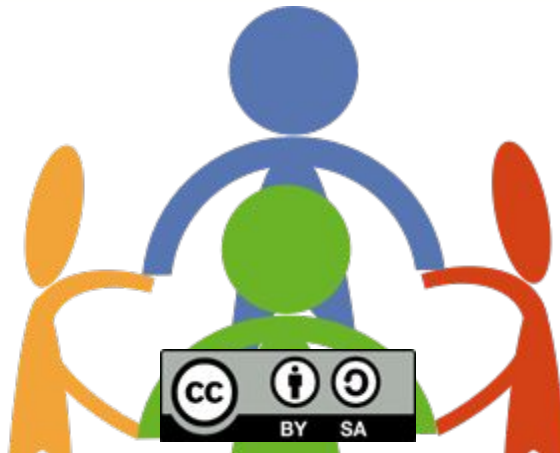


Which Sorting: Concept Challenge



This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/)
by Christine Alvarado, Mia Minnes, and Leo Porter, 2015.

4 7 2 10 1 8

Initial Array

2 4 7 10 1 8

After 3 loop iterations



Which sorting algorithm could produce the “after” array in the 3rd iteration of its outer loop (assume i starts at 0)

- A. Insertion Sort
- B. Selection Sort
- C. Neither
- D. Both



Break here for IVQ and
Learner Video

Selection Sort: Basic Algorithm

For each **position i** from 0 to **$\text{length}-2$**

Find smallest element in **positions i to $\text{length}-1$**

Swap it with element in **position i**

Sorted

Still unsorted



The diagram shows a horizontal array divided into two sections. The left section is labeled 'Sorted' and is represented by a gray rectangle. The right section is labeled 'Still unsorted'. A blue curly brace spans the boundary between these two sections, with the variable i positioned below the left end of the brace, indicating the current index being processed.

i

Insertion Sort

4

7

2

10

1

8



Insertion Sort

4 7 2 10 1 8

4 7 2 10 1 8



Insertion Sort



4 7 2 10 1 8

4 7 2 10 1 8

4 7 2 10 1 8

Insertion Sort



4 7 2 10 1 8

4 7 2 10 1 8

4 7 2 10 1 8

2 4 7 10 1 8

Selection Sort

4

7

2

10

1

8



Selection Sort

4 7 2 10 1 8

1 7 2 10 4 8



Selection Sort



4 7 2 10 1 8

1 7 2 10 4 8

1 2 7 10 4 8

Selection Sort



4 7 2 10 1 8

1 7 2 10 4 8

1 2 7 10 4 8

1 2 4 10 7 8