Course: Data Structures (CSE CS203A)
Assignment II: Array Selection Sort
Student Worksheet Companion

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Student ID: 1131428 Student Name: 徐妍雅

A1. Array Representation Drawing

Instructions: Draw a visual representation of an array structure that can hold 8 integers. Include:

Array cells/boxes ✓
Index labels (0 through 7) ✓
Clear indication of array bounds ✓

Complete your populated array here:

Array A

value	22	90	95	100	71	19	5	70
index	0	1	2	3	4	5	6	7

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A2. Populate Array with Given Integers

Instructions: Fill the array structure you drew in A1 with the given integers: 22, 90, 95, 100, 71, 19, 5, 70

Add the following annotations:

Array name (e.g., "Array A") ✓
Index numbers below each cell ✓
Value labels above or inside each cell ✓

A3. Selection Sort – First Three Steps

Instructions: Show the detailed execution of the first three iterations of selection sort. For each step, track the array state, identify the minimum element, record any swaps performed, and show the resulting array.

Step1 (i = 0):

Array before step (with indices)
[22] [90] [95] [100] [71] [19] [5] [70]
0 1 2 3 4 5 6 7
Searching range: indices 0 to 7

Minimum element found: Value = 5, Index = 6
Swap performed: Index 0 <-> Index 6
(Circle YES or NO): (YES) / NO
Array after step (with indices)
[5] [90] [95] [100] [71] [19] [22] [70] 0 1 2 3 4 5 6 7

Step2 (i = 1):

Array before step (with indices)
[5] [90] [95] [100] [71] [19] [22] [70] 0 1 2 3 4 5 6 7
Searching range: indices 1 to 7
Minimum element found: Value = 19, Index = 5
Swap performed: Index 1 <-> Index 5
(Circle YES or NO): (YES) / NO
Array after step (with indices)
[5] [19] [95] [100] [71] [90] [22] [70] 0 1 2 3 4 5 6 7

Step3 (i = 2):

Array before step (with indices)
[5] [19] [95] [100] [71] [90] [22] [70] 0 1 2 3 4 5 6 7
Searching range: indices 2 to 7
Minimum element found: Value = 22, Index = 6
Swap performed: Index 2 <-> Index 6
(Circle YES or NO): (YES) / NO
Array after step (with indices)
[5] [19] [22] [100] [71] [90] [95] [70] 0 1 2 3 4 5 6 7