Trace table for **Challenge 2: Selection Sort algorithm**

Visual to text coding – Lesson 9

BEGIN

 **unsortedList** ← [11, 25, 12, 22, 64]

 **sortedList** ← []

 **noOfValues** ← length of **unsortedList**

 Display "Here's the unsorted array: ", **unsortedList**

 // Repeat the whole algorithm enough times to move every value.

For **i** from 0 to **noOfValues** - 1

 // Identify the smallest value currently in the unsorted list.

 **smallest** ← 100

 For **j** from 0 to length of **unsortedList**

 If **unsortedList**[**j**]< **smallest**

 **smallest** ← **unsortedList**[**j**]

 End If

 End For

 // Move the smallest value across to the sorted list.

 Remove **smallest** from **unsortedList**

Append **smallest** to **sortedList**

 // Display as we go.

Display "Here's the sorted array: ", **sortedList**

 End For

END

| unsortedList | sortedList | i | j | smallest |
| --- | --- | --- | --- | --- |
| [11 25 12 22 64] |  |  |  |  |
|  | [ ] |  |  |  |
|  |  | 0 |  |  |
|  |  |  |  | 100 |
|  |  |  | 0 |  |
|  |  |  |  | 11 |
|  |  |  | 1 |  |
|  |  |  |  | 11 |
|  |  |  | 2 |  |
|  |  |  |  | 11 |
|  |  |  | 3 |  |
|  |  |  |  | 11 |
|  |  |  | 4 |  |
|  |  |  |  | 11 |
| [25 12 22 64] |  |  |  |  |
|  | [11] |  |  |  |
|  |  | 1 |  |  |
|  |  |  |  | 100 |
|  |  |  | 0 |  |
|  |  |  |  | 25 |
|  |  |  | 1 |  |
|  |  |  |  | 12 |
|  |  |  | 2 |  |
|  |  |  |  | 12 |
|  |  |  | 3 |  |
|  |  |  |  | 12 |
| [25 22 64] |  |  |  |  |
|  | [11 12] |  |  |  |
|  |  | 2 |  |  |
|  |  |  |  | 100 |
|  |  |  | 0 |  |
|  |  |  |  | 25 |
|  |  |  | 1 |  |
|  |  |  |  | 22 |
|  |  |  | 2 |  |
|  |  |  |  | 22 |
| [25 64] |  |  |  |  |
|  | [11 12 22] |  |  |  |
|  |  | 3 |  |  |
|  |  |  |  | 100 |
|  |  |  | 0 |  |
|  |  |  |  | 25 |
|  |  |  | 1 |  |
|  |  |  |  | 25 |
| [64] |  |  |  |  |
|  | [11 12 22 25] |  |  |  |
|  |  | 4 |  |  |
|  |  |  |  | 100 |
|  |  |  | 0 |  |
|  |  |  |  | 64 |
| [ ] |  |  |  |  |
|  | [11 12 22 25 64] |  |  |  |