Software Development: Data Structures (H16Y 35)

Preparing for Outcome 2 (Part 1), Exercise 2

Bubble sort algorithm for data stored in an array

Formative Exercise 3

Name:

Class: HND Computing: Software Development

Date:

Sort the names given into ascending order using the bubble sort method:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **i** | 0 | 1 | 2 | 3 | 4 | 5 |
|  | **Heather** | **Craig** | **Christopher** | **David** | **Tony** | **Robbie** |
| 0 |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |

After 1st pass Number of comparisons \_\_\_\_\_\_\_\_\_\_\_ Number of swaps made \_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **i** | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |

After 2nd pass Number of comparisons \_\_\_\_\_\_\_\_\_\_\_ Number of swaps made \_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **i** | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |

After 3rd pass Number of comparisons \_\_\_\_\_\_\_\_\_\_\_ Number of swaps made \_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **i** | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |

After 4th pass Number of comparisons \_\_\_\_\_\_\_\_\_\_\_ Number of swaps made \_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **i** | 0 | 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |

After 5th pass Number of comparisons \_\_\_\_\_\_\_\_\_\_\_ Number of swaps made \_\_\_\_\_\_\_\_\_\_\_