Parsons Problems – Java

Bubble Sort – Part 1 of 3: Populating an array

This program should create 3 instance variables (an empty array of 5 items, a variable to store the size of the array and a random number generator object).

A subroutine, populate(), should step through each item, adding a random number in each slot.

|  |
| --- |
| for(int i = 0; i < size; i++) |
| int size = list.length; |
| int[] list = new int[5]; |
| list[i] = rand.nextInt(100); |
| public void populate() |
| Random rand = new Random(); |

|  |
| --- |
|  |
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|  |
|  |
| { |
|  |
|  { |
|  |
|  } |
| } |

Parsons Problems – Java

Bubble Sort – Part 2 of 3: Swapping two numbers

This program should swap the value in position i with the value next to it if they are the wrong way round.

|  |
| --- |
| if(list[i] > list[i+1]) |
| int temp = list[i]; |
| list[i+1] = temp; |
| list[i] = list[i+1]; |

|  |
| --- |
|  |
| { |
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|  |
| } |

Parsons Problems – Java

Bubble Sort – Part 3 of 3: Complete Bubble Sort

This subroutine should perform a bubble sort, making use of the code from Part 2.

|  |
| --- |
| for(int i = 0; i < size-1; i++) |
| for (int j = 0; j < size-1; j++) |
| if(list[i] > list[i+1]) |
| int temp = list[i]; |
| list[i+1] = temp; |
| list[i] = list[i+1]; |
| public void bubble() |

|  |
| --- |
|  |
| { |
|  |
|  { |
|  |
|  { |
|  |
|  { |
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|  |
|  |
|  } |
|  } |
|  } |
| } |