

Eric Lo

Resources:

Ruby

<https://www.tutorialspoint.com/ruby/index.htm>

Good tutorial

php

<https://www.w3schools.com/php/DEFAULT.asp>

Good tutorial

Bubble sort and selection sort project

Pseudocode

For i=0, i<=length_of_array-1, i++

 For j=0, j<=length_of_array-i-2, j++

 If array[j] > array[j+1]

 Swap the numbers

For i=0, i<=length_of_array-1, i++

 x=i

 For j=i+1, j<=length_of_array-1, j++

 If array[x] > array[j]

 x=j

 Swap the numbers

I need array_for_bubble_sort, array_for_selection_sort, length_of_array, if statement, and for loop

Ruby

```
1  array_for_bubble_sort = [4, 2, 1, 3]
2  array_for_selection_sort = [4, 2, 1, 3]
3
4  #bubble sort
5  length_of_array_for_bubble_sort = array_for_bubble_sort.length()
6
7  (0..(length_of_array_for_bubble_sort-1)).each do |i|
8    (0..(length_of_array_for_bubble_sort-i-2)).each do |j|
9      if array_for_bubble_sort[j] > array_for_bubble_sort[j+1]
10         temp = array_for_bubble_sort[j]
11         array_for_bubble_sort[j] = array_for_bubble_sort[j+1]
12         array_for_bubble_sort[j+1] = temp
13       end
14     end
15   end
16   puts "#{array_for_bubble_sort}"
17
18   #selection sort
19   length_of_array_for_selection_sort = array_for_selection_sort.length()
20
21   (0..(length_of_array_for_selection_sort-1)).each do |i|
22     x = i
23     ((i+1)..(length_of_array_for_selection_sort-1)).each do |j|
24       if array_for_selection_sort[x] > array_for_selection_sort[j]
25         x = j
26       end
27     end
28     temp = array_for_selection_sort[i]
29     array_for_selection_sort[i] = array_for_selection_sort[x]
30     array_for_selection_sort[x] = temp
31   end
32   puts "#{array_for_selection_sort}"
33
```

Output

```
C:\cisc3160>ruby cisc3160_hw4_EricLo.rb  
[1, 2, 3, 4]  
[1, 2, 3, 4]
```

Php

```
1  <?php  
2  $array_for_bubble_sort = array(4, 2, 1, 3);  
3  $array_for_selection_sort = array(4, 2, 1, 3);  
4  
5  #bubble sort  
6  $length_of_array_for_bubble_sort = count($array_for_bubble_sort);  
7  for ($i = 0; $i <= ($length_of_array_for_bubble_sort-1); $i++) {  
8      for ($j = 0; $j <= ($length_of_array_for_bubble_sort-i-2); $j++) {  
9          if ($array_for_bubble_sort[$j] > $array_for_bubble_sort[$j+1]) {  
10             $temp = $array_for_bubble_sort[$j];  
11             $array_for_bubble_sort[$j] = $array_for_bubble_sort[$j+1];  
12             $array_for_bubble_sort[$j+1] = $temp;  
13         }  
14     }  
15 }  
16 echo "$array_for_bubble_sort[0], $array_for_bubble_sort[1], $array_for_bubble_sort[2], $array_for_bubble_sort[3] <br>";  
17  
18 #selection sort  
19 $length_of_array_for_selection_sort = count($array_for_selection_sort);  
20 for ($i = 0; $i <= ($length_of_array_for_selection_sort-1); $i++) {  
21     $x = $i;  
22     for ($j = ($i+1); $j <= ($length_of_array_for_selection_sort-1); $j++) {  
23         if ($array_for_selection_sort[$x] > $array_for_selection_sort[$j]) {  
24             $x = $j;  
25         }  
26     }  
27     $temp = $array_for_selection_sort[$i];  
28     $array_for_selection_sort[$i] = $array_for_selection_sort[$x];  
29     $array_for_selection_sort[$x] = $temp;  
30 }  
31 echo "$array_for_selection_sort[0], $array_for_selection_sort[1], $array_for_selection_sort[2], $array_for_selection_sort[3]";  
32 ?>
```

Output

```
1, 2, 3, 4  
1, 2, 3, 4
```

I found the tutorials on the internet. Learning the new syntax was challenging.