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pythonProject - Version control
Current File
main.py
1
2 usage
3 def InsertionSortAscend(arr1):
4     for i in range(1, len(arr1)):
5         key = arr1[i]
6         j = i - 1
7         while j >= 0 and key < arr1[j]:
8             arr1[j + 1] = arr1[j]
9             j -= 1
10        arr1[j + 1] = key
11
12 usage
13 def InsertionSortDescend(arr1):
14     for i in range(1, len(arr1)):
15         key = arr1[i]
16         j = i - 1
17         while j >= 0 and key > arr1[j]:
18             arr1[j + 1] = arr1[j]
19             j -= 1
20        arr1[j + 1] = key
21
22 usage
23 def SelectionSortAscend(arr2):
24     for i in range(len(arr2)):
25         min_idx = i
26         for j in range(i + 1, len(arr2)):
27             if arr2[min_idx] > arr2[j]:
28                 min_idx = j
29        arr2[i], arr2[min_idx] = arr2[min_idx], arr2[i]
30
31 usage
32 def SelectionSortDescend(arr2):
33     for i in range(len(arr2)):
34         min_idx = i
35         for j in range(i + 1, len(arr2)):
36             if arr2[min_idx] < arr2[j]:
37                 min_idx = j
38        arr2[i], arr2[min_idx] = arr2[min_idx], arr2[i]
39
40 OddNumbers() - for num in my_list : if num % 2 != 0
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pythonProject - Version control
Current File
main.py
48
49 usage
50 def BubbleSortAscend(arr3):
51     for i in range(len(arr3)):
52         for j in range(0, len(arr3) - i - 1):
53             if arr3[j] > arr3[j + 1]:
54                 arr3[j], arr3[j + 1] = arr3[j + 1], arr3[j]
55
56 def BubbleSortDescend(arr3):
57     for i in range(len(arr3)):
58         for j in range(0, len(arr3) - i - 1):
59             if arr3[j] < arr3[j + 1]:
60                 arr3[j], arr3[j + 1] = arr3[j + 1], arr3[j]
61
62 usage
63 def OddNumbers(my_list):
64     listOdd = []
65     for num in my_list:
66         if num % 2 != 0:
67             listOdd.append(num)
68     return listOdd
69
70 usage
71 def EvenNumbers(my_list):
72     listEven = []
73     for num in my_list:
74         if num % 2 == 0:
75             listEven.append(num)
76     return listEven
77
78 """
79 arr1 = [10, 2, 3, 1, 1, 4, 89, 21]
80 print("Array 1 before Insertion sort")
81 print(arr1)
82 InsertionSort(arr1)
83 print("This is after the insertion sort")
84
85 OddNumbers() - for num in my_list : if num % 2 != 0
pythonProject - main.py 58:32 CRLF UTF-8 4 spaces Python 3.12 (pythonProject)
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Current File
main.py
75 print("This is after the Insertion sort")
76 print(arr1)
77
78
79 #Selection sort
80 arr2 = [10, 2, 3, 1, 1, 4, 89, 21]
81 print("Array 2 before Selection sort")
82 print(arr2)
83 SelectionSort(arr2)
84 print("Array 2 after Selection sort")
85 print(arr2)
86
87
88 #Bubble sort
89 arr3 = [10, 2, 3, 1, 1, 4, 89, 21]
90 print("Array 3 before Bubble sort")
91 print(arr3)
92 BubbleSort(arr3)
93 print("Array 3 after Bubble sort")
94 print(arr3)
95 ...
96
97 #1
98 list1 = [23, 89, 7, 56, 44]
99 print("This is List 1 Before Bubble Sort")
100 print(list1)
101 BubbleSortAscend(list1)
102 print("This is List 1 in Ascending Order After Bubble Sort")
103 print(list1)
104 print()
105
106 #2
107 list2 = [12, 78, 91, 34, 62]
108 print("This is List 2 Before Insertion Sort")
109 print(list2)
110 InsertionSortAscend(list2)
111 print("This is List 2 in Ascending Order After Insertion Sort")
112 print(list2)
113 print()
114
115 #3
116 OddNumbers()
117 for num in my_list:
118     if num % 2 != 0:
```

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pythonProject - Version control
Current File
main.py
119 #3
120 list3 = [5, 99, 48, 15, 67]
121 print("This is List 3 Before Selection Sort")
122 print(list3)
123 SelectionSortDescend(list3)
124 print("This is List 3 in Descending Order After Selection Sort")
125 print(list3)
126 print()
127
128 #4
129 list4 = [38, 82, 25, 74, 13]
130 print("This is List 4 Before Insertion Sort")
131 print(list4)
132 InsertionSortDescend(list4)
133 print("This is List 4 in Descending Order After Insertion Sort")
134 print(list4)
135 print()
136
137 #5
138 list5 = [64, 56, 62, 78, 48, 15, 38, 25]
139 print("This is List 5 Before Insertion Sort")
140 print(list5)
141 InsertionSortDescend(list5)
142 list6 = list5
143 print("This is List 6 in Descending Order After Insertion Sort")
144 print(list6)
145 InsertionSortAscend(list6)
146 list7 = list5
147 print("This is List 7 in Ascending Order After Insertion Sort")
148 print(list7)
149 print()
150
151 #6
152 list8 = [23, 89, 7, 56, 44, 12, 78, 91, 34, 62, 5, 99, 48, 15, 67, 38, 82, 25, 74, 13]
153 print("This is List 8 Before Selection Sort")
154 print(list8)
155 SelectionSortAscend(list8)
156 print("This is List 8 in Ascending Order After Selection Sort")
157 print(list8)
158 print()
159
160 OddNumbers()
161 for num in my_list:
162     if num % 2 != 0:
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pythonProject - Version control
Current File
main.py
127 print(list4)
128 InsertionSortDescend(list4)
129 print("This is List 4 in Descending Order After Insertion Sort")
130 print(list4)
131 print()
132
133 #5.
134 list5 = [44, 56, 62, 78, 48, 15, 38, 25]
135 print("This is List 5 Before Insertion Sort")
136 print(list5)
137 InsertionSortDescend(list5)
138 list6 = list5
139 print("This is List 6 in Descending Order After Insertion Sort")
140 print(list6)
141 InsertionSortAscend(list5)
142 list7 = list5
143 print("This is List 7 in Ascending Order After Insertion Sort")
144 print(list7)
145 print()
146
147 #6.
148 list8 = [23, 89, 7, 56, 44, 12, 78, 91, 34, 62, 5, 99, 48, 15, 67, 38, 82, 25, 74, 13]
149 print("This is List 8 Before Selection Sort")
150 print(list8)
151 SelectionSortAscend(list8)
152 print("This is List 8 in Ascending Order After Selection Sort")
153 print(list8)
154 print()
155
156 #7.
157 list1Odd = OddNumbers(list8)
158 print("This is odd values in List 8")
159 print(list1Odd)
160 list2Even = EvenNumbers(list8)
161 print("This is Even values in List 8")
162 print(list2Even)
```

Output:

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pythonProject - Version control
Current File
main.py
Run
C:\Users\castro_sh\PycharmProjects\pythonProject\venv\Scripts\python.exe C:\Users\castro_sh\PycharmProjects\pythonProject\main.py
This is List 1 Before Bubble Sort
[23, 89, 7, 56, 44]
This is List 1 in Ascending Order After Bubble Sort
[7, 23, 44, 56, 89]
This is List 2 Before Insertion Sort
[12, 78, 91, 34, 62]
This is List 2 in Ascending Order After Insertion Sort
[12, 34, 62, 78, 91]
This is List 3 Before Selection Sort
[5, 99, 48, 15, 67]
This is List 3 in Descending Order After Selection Sort
[99, 67, 48, 15, 5]
This is List 4 Before Insertion Sort
[38, 82, 25, 74, 13]
This is List 4 in Descending Order After Insertion Sort
[82, 74, 38, 25, 13]
This is List 5 Before Insertion Sort
[44, 56, 62, 78, 48, 15, 38, 25]
This is List 6 in Descending Order After Insertion Sort
[78, 62, 56, 48, 44, 38, 25, 15]
This is List 7 in Ascending Order After Insertion Sort
[15, 25, 38, 44, 48, 56, 62, 78]
This is List 8 Before Selection Sort
[23, 89, 7, 56, 44, 12, 78, 91, 34, 62, 5, 99, 48, 15, 67, 38, 82, 25, 74, 13]
This is List 8 in Ascending Order After Selection Sort
[5, 7, 12, 13, 15, 23, 25, 34, 38, 44, 48, 56, 62, 67, 74, 78, 82, 89, 91, 99]
This is odd values in List 8
[5, 7, 13, 15, 23, 25, 67, 89, 91, 99]
This is Even values in List 8
[12, 34, 38, 44, 48, 56, 62, 74, 78, 82]
Process finished with exit code 0
```