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Assignment 04
METU CENG310 Fall 2021-2022
Data Structures and Algorithms with Python

Start Date: January 18th, 2022
Due Date: January 28th, 2022

1 Smart Sort

In this assignment, you are expected to implement a function called `smart_sort` that sorts its sequence input in the following manner. If the size of the input sequence is less than 50, the items should be ordered with insertion sort algorithm, otherwise they should be sorted with merge sort.

For the implementations of the insertion sort and merge sort algorithms, you may prefer to use the implementations provided in the textbook. `smart_sort` should accept only compact arrays (Please revisit lecture 5.) as input parameter. If the data type is neither `int` nor `float`, `smart_sort` should raise an exception. `smart_sort` should also handle the corner cases such that the input could be an empty array or an array having only a single item.

2 Delivery Instructions

Please hand in your module as a single file named as `smart_sort.py` over ODTUClass by 11:59pm on due date. An Assignment-04 page will be generated soon after the start date of this assignment. Should you have any questions pertaining to this assignment, please ask them in advance (rather than on the due date) for your own convenience. Whatever IDE you use, you have to make sure that your module could be run on a Python interpreter:

```
from smart_sort import smart_sort
from array import array
a = array('i', [4, 2, 1])
print(smart_sort(a)) # array('i', [1, 2, 4])
```