

DATA SORTING METHODS AND APPARATUSES, DEVICES, AND READABLE STORAGE MEDIA

ABSTRACT

This specification discloses a data sorting method and apparatus, a device, and a readable
5 storage medium. In the data sorting method provided in this specification, a non-reference
ciphertext is updated based on a first noise value corresponding to the non-reference ciphertext
and a first specified parameter, and each non-reference ciphertext is compared with an updated
reference ciphertext. Further, a to-be-processed array is divided into a plurality of subarrays based
on a first comparison result. Each subarray is separately re-used as a to-be-processed array. The
10 above-mentioned comparison process is repeated until each array includes only a single ciphertext.
A sorting result of each ciphertext is determined based on a size relationship between the arrays.
It can be learned that in a ciphertext sorting process, in a manner of updating each non-reference
ciphertext based on a noise value and the first specified parameter, even if a comparison result is
that the non-reference ciphertext is equal to a reference ciphertext, an original relationship between
15 the non-reference ciphertext and the reference ciphertext is not leaked, thereby improving security
and privacy protection of data in the ciphertext sorting process.

FIG. 1