CLAIMS

1. A data processing method, comprising:

obtaining target compression columns of a plurality of user records on a first data page, wherein the target compression columns comprise data of a numeric type;

determining a first base value corresponding to each target compression column, wherein the first base value corresponding to the target compression column is used for base-delta encoding of the target compression columns of respective user records on the first data page, wherein the first base value corresponding to the target compression column is used to convert a to-be-encoded number in the target compression column to a delta of the first base value corresponding to the target compression column; and

generating a first base value record based on first base values corresponding to respective target compression columns, and storing the first base value record into the first data page.

2. The method according to claim 1, wherein the generating a first base value record based on first base values corresponding to respective target compression columns comprises:

releasing storage space occupied by an invalid user record on the first data page if remaining storage space of the first data page is smaller than storage space occupied by a next user record to be inserted into the first data page, and determining compression rates of valid user records in the plurality of user records in the process of releasing the storage space; and

generating, if the compression rates of the valid user records satisfy a preset first compression rate condition, the first base value record based on the first base values corresponding to the respective target compression columns, and compressing the target compression columns corresponding to the valid user records based on the first base values corresponding to the respective target compression columns.

3. The method according to claim 2, further comprising:

migrating a target user record in the plurality of user records to a second data page if the remaining storage space of the first data page is still smaller than the storage space occupied by the next user record to be inserted into the first data page after the storage space occupied by the invalid user record on the first data page is released.

4. The method according to claim 3, wherein the migrating a target user record in the plurality of user records to a second data page comprises:

migrating the target user record in an uncompressed state to the second data page if a

compression rate of the target user record does not satisfy a preset second compression rate condition; and/or

migrating the target user record in a compressed state to the second data page if the compression rate of the target user record satisfies the preset second compression rate condition, and storing a second base value record into the second data page, wherein

the second base value record comprises a second base value corresponding to each target compression column, and the second base value corresponding to the target compression column is used for compressing the target compression column of the second base value record.

5. The method according to claim 4, wherein the migrating the target user record in a compressed state to the second data page comprises:

decompressing the target user record based on the first base value record if the target user record is a compressed user record on the first data page; and

migrating a decompressed target user record to the second data page.

6. The method according to claim 1, further comprising:

recording a first flag bit on the first data page after the first base value record is generated based on the first base values corresponding to the respective target compression columns, wherein the first flag bit is used for representing that the first data page comprises the first base value record; and/or

recording a second flag bit in a user record after a target compression column of the user record on the first data page is compressed, wherein the second flag bit is used for representing that the user record is a compressed user record.

7. The method according to claim 1, wherein the generating a first base value record based on first base values corresponding to respective target compression columns comprises:

generating a compression entry corresponding to each target compression column, wherein the compression entry corresponding to the target compression column comprises identification information of the target compression column and a base value of the target compression column; and

encapsulating a quantity of the target compression columns on the first data page and compression entries corresponding to the respective target compression columns into the first base value record.

8. The method according to claim 7, wherein the first base value record further comprises at least one of the following information:

a version number of a compression algorithm; and

check information used for checking the first base value record.

9. The method according to claim 1, wherein after the storing the first base value record into the first data page, the method further comprises:

compressing, based on the first base value record, a new user record to be inserted into the first data page; and

inserting a compressed new user record into the first data page;

and/or

decompressing a to-be-updated user record on the first data page based on the first base value record; and

compressing an updated user record based on the first base value record after a decompressed to-be-updated user record is updated.

10. The method according to claim 1, wherein a numeric relationship after numbers of the target compression columns of the plurality of user records are compressed is the same as a numeric relationship before the numbers are compressed; and the method further comprises:

obtaining to-be-queried data after the base-delta encoding of the target compression columns of the plurality of user records on the first data page is performed;

compressing the to-be-queried data based on a first base value corresponding to a target compression column to which the to-be-queried data belongs; and

determining a target record from a plurality of compressed user records based on compressed to-be-queried data.

11. The method according to claim 1, further comprising:

decompressing, after the base-delta encoding of the respective target compression columns of the user records on the first data page is performed, respective target compression columns of compressed user records based on the first base value record.

12. A computer-readable storage medium, having a computer program stored therein, wherein the program, when executed by a processor, implements the method according to any one of claims 1 to 11.

13. A computer device, comprising a memory, a processor, and a computer program stored on the memory and executable by the processor, wherein the processor, when executing the program, implements the method according to any one of claims 1 to 11.