in the coordination destination table selected by the table selection unit 102, individually for the largest number of the second columns. For example, suppose that five second columns exist in a coordination source table. Suppose that a fourth column similar to one of the five second columns, and another fourth column similar to the other of the five second columns exist in the coordination destination table selected by the table selection unit 102. If not more than two fourth columns exist with respect to the other coordination source tables, and not more than two fourth columns exist with respect to coordination destination tables other than the coordination destination table selected by the table selection unit 102, it can be concluded that the coordination source table satisfies the above condition (2). It is possible that not only a coordination source table, but also a coordination destination table different from the coordination destination table selected by the table selection unit 102 satisfies the above condition (2).

[0034] In the present embodiment, the table extraction unit 104 may include in the extraction result 141, three types of tables: a table that belongs to the same schema as the coordination destination table selected by the table selection unit 102, a table that belongs to a different schema of the same instance as the coordination destination table selected by the table selection unit 102, and a table that belongs to a schema of a different instance than the coordination destination table selected by the table selection unit 102.

[0035] The information accumulation unit 105 stores reference relation information 151 and coordination relation information 152 by using the storage device.

[0036] The reference relation information 151 is information indicating a pair of columns that results in a reference relation between the coordination destination table selected by the table selection unit 102 and the table extracted by the table extraction

unit 104. The reference relation information 151 is, namely, information indicating a pair of the first column and the third column.

[0037] The coordination relation information 152 is information indicating a pair of corresponding columns other than the columns that result in the reference relation between the coordination destination table selected by the table selection unit 102 and the table extracted by the table extraction unit 104. The reference relation information 151 is, namely, information indicating a pair of the second column and the fourth column.

[0038] The reference relation information 151 and the coordination relation information 152 are created by the table extraction unit 104 and stored in the information accumulation unit 105. The reference relation information 151 and the coordination relation information 152 may be outputted by the table extraction unit 104 as a final extraction result 141, or may be saved temporarily in the information accumulation unit 105 and used for deciding on the final extraction result 141.

[0039] The information output unit 106 generates recommendation information 161 that recommends using a combination of the coordination destination table selected by the table selection unit 102 and the table extracted by the table extraction unit 104, in the data coordination, based on the extraction result 141 outputted from the table extraction unit 104. The information output unit 106 outputs the recommendation information 161 generated, via the output device.

[0040] In a case where at least two types of tables out of the three types of tables described above are included in the extraction result 141 outputted from the table extraction unit 104, the information output unit 106 outputs, as the recommendation information 161, information that recommends using the combination of the coordination destination table selected by the table selection unit 102 and the table

table definition information 202 of the "Store" table in the "SVR001" of the "Ordering System", it is defined that the "Store" table includes columns "Store ID", "Store Name", "Address", and "Store Manager Employee ID", and the "Store ID" alone is designated as the primary key.

[0047] Although not illustrated in the drawings, the coordination destination information 112 is also information in the same format as the coordination source information 111 illustrated in Fig. 2.

[0048] Fig. 3 is a flowchart illustrating an example of behavior of the data coordination support apparatus 100. Fig. 4 is a table illustrating an example of reference source information 211 and primary key definition information 212 which will be described later. Fig. 5 is a table illustrating an example of a result 221 of schema matching. Fig. 6 is a table illustrating an example of the reference relation information 151.

[0049] At step S11, the table selection unit 102 reads the coordination destination information 112 from the information storage unit 101. The table selection unit 102 displays a list of coordination destination tables defined by the coordination destination information 112 on a screen via the output device. The table selection unit 102 accepts, via the input device, an operation of a user looking at the list. The table selection unit 102 selects a coordination destination table according to the operation of the user. The table selection unit 102 generates the reference source information 211 that defines the coordination destination table selected in the same format as the table definition information 202.

[0050] For example, the table selection unit 102, with respect to an "Order Particulars Table" in the "SVR001" of the "Ordering System", generates the reference source information 211 as illustrated in Fig. 4. It is defined in the reference source information 211 that the "Order Particulars Table" in the "SVR001" of the "Ordering

relation information 151.

[0066] For example, the table selection unit 102, with respect to the "Order Particulars Table" in the "SVR001" of the "Ordering System", generates the non-foreign key definition information 231 as illustrated in Fig. 8. It is defined in the non-foreign key definition information 231 that the "Order Particulars Table" in the "SVR001" of the "Ordering System" includes columns "Order Details ID", "Order ID", "Order Quantity", and "Store Name" as non-foreign keys, and the "Order Details ID" and "Order ID" are designated as the primary key.

[0067] The table selection unit 102 delivers the non-foreign key definition information 231 to the table extraction unit 104.

[0068] At step S22, the column identification unit 103 reads the reference relation information 151 from the information accumulation unit 105. The column identification unit 103 refers to the table definition information 202 included in the coordination source information 111 or in the coordination destination information 112 read at step S12 with respect to the reference destination table defined in the reference relation information 151. The column identification unit 103 identifies a column (i.e., a second column) of the reference destination table not designated as the primary key, from the table definition information 202 of the reference destination table. The column identification unit 103 generates the non-primary key definition information 232 which is the table definition information 202 narrowed down to the information related only to the column identified.

[0069] For example, the column identification unit 103, with respect to the "Store" table in the "SVR001" of the "Ordering System", generates the non-primary key definition information 232 as illustrated in Fig. 8. It is defined in the non-primary key definition information 232 that the "Store" table in the "SVR001" of the "Ordering

in the coordination destination table selected by the table selection unit 102, individually for the largest number of the second columns. For example, suppose that five second columns exist in a coordination source table. Suppose that a fourth column similar to one of the five second columns, and another fourth column similar to another one of the five second columns exist in the coordination destination table selected by the table selection unit 102. If not more than two fourth columns exist with respect to the other coordination source tables, and not more than two fourth columns exist with respect to coordination destination tables other than the coordination destination table selected by the table selection unit 102, it can be concluded that the coordination source table satisfies the above condition (2). It is possible that not only a coordination source table, but also a coordination destination table different from the coordination destination table selected by the table selection unit 102 satisfies the above condition (2).

[0034] In the present embodiment, the table extraction unit 104 may include in the extraction result 141, three types of tables: a table that belongs to the same schema as the coordination destination table selected by the table selection unit 102, a table that belongs to a different schema of the same instance as the coordination destination table selected by the table selection unit 102, and a table that belongs to a schema of a different instance than the coordination destination table selected by the table selection unit 102.

[0035] The information accumulation unit 105 stores reference relation information 151 and coordination relation information 152 by using the storage device.

[0036] The reference relation information 151 is information indicating a pair of columns that results in a reference relation between the coordination destination table selected by the table selection unit 102 and the table extracted by the table extraction

unit 104. The reference relation information 151 is, namely, information indicating a pair of the first column and the third column.

[0037] The coordination relation information 152 is information indicating a pair of corresponding columns other than the columns that result in the reference relation between the coordination destination table selected by the table selection unit 102 and the table extracted by the table extraction unit 104. The coordination relation information 152 is, namely, information indicating a pair of the second column and the fourth column.

[0038] The reference relation information 151 and the coordination relation information 152 are created by the table extraction unit 104 and stored in the information accumulation unit 105. The reference relation information 151 and the coordination relation information 152 may be outputted by the table extraction unit 104 as a final extraction result 141, or may be saved temporarily in the information accumulation unit 105 and used for deciding on the final extraction result 141.

[0039] The information output unit 106 generates recommendation information 161 that recommends using a combination of the coordination destination table selected by the table selection unit 102 and the table extracted by the table extraction unit 104, in the data coordination, based on the extraction result 141 outputted from the table extraction unit 104. The information output unit 106 outputs the recommendation information 161 generated, via the output device.

[0040] In a case where at least two types of tables out of the three types of tables described above are included in the extraction result 141 outputted from the table extraction unit 104, the information output unit 106 outputs, as the recommendation information 161, information that recommends using the combination of the coordination destination table selected by the table selection unit 102 and the table

table definition information 202 of the "Store" table in the "SVR001" of the "Ordering System", it is defined that the "Store" table includes columns "Store ID", "Store Name", "Address", and "Store Manager Employee ID", and the "Store ID" alone is designated as the primary key.

[0047] Although not illustrated in the drawings, the coordination destination information 112 is also information in the same format as the coordination source information 111 illustrated in Fig. 2.

[0048] Fig. 3 is a flowchart illustrating an example of behavior of the data coordination support apparatus 100. Fig. 4 is a table illustrating an example of reference source information 211 and primary key definition information 212 which will be described later. Fig. 5 is a table illustrating an example of a result 221 of schema matching. Fig. 6 is a table illustrating an example of the reference relation information 151.

[0049] At step S11, the table selection unit 102 reads the coordination destination information 112 from the information storage unit 101. The table selection unit 102 displays a list of coordination destination tables defined by the coordination destination information 112 on a screen via the output device. The table selection unit 102 accepts, via the input device, an operation of a user looking at the list. The table selection unit 102 selects a coordination destination table according to the operation of the user. The table selection unit 102 generates the reference source information 211 that defines the coordination destination table selected in the same format as the table definition information 202.

[0050] For example, the table selection unit 102, with respect to an "Order Particulars" table in the "SVR001" of the "Ordering System", generates the reference source information 211 as illustrated in Fig. 4. It is defined in the reference source information 211 that the "Order Particulars" table in the "SVR001" of the "Ordering

relation information 151.

[0066] For example, the table selection unit 102, with respect to the "Order Particulars" table in the "SVR001" of the "Ordering System", generates the non-foreign key definition information 231 as illustrated in Fig. 8. It is defined in the non-foreign key definition information 231 that the "Order Particulars" table in the "SVR001" of the "Ordering System" includes columns "Order Details ID", "Order ID", "Order Quantity", and "Store Name" as non-foreign keys, and the "Order Details ID" and "Order ID" are designated as the primary key.

[0067] The table selection unit 102 delivers the non-foreign key definition information 231 to the table extraction unit 104.

[0068] At step S22, the column identification unit 103 reads the reference relation information 151 from the information accumulation unit 105. The column identification unit 103 refers to the table definition information 202 included in the coordination source information 111 or in the coordination destination information 112 read at step S12 with respect to the reference destination table defined in the reference relation information 151. The column identification unit 103 identifies a column (i.e., a second column) of the reference destination table not designated as the primary key, from the table definition information 202 of the reference destination table. The column identification unit 103 generates the non-primary key definition information 232 which is the table definition information 202 narrowed down to the information related only to the column identified.

[0069] For example, the column identification unit 103, with respect to the "Store" table in the "SVR001" of the "Ordering System", generates the non-primary key definition information 232 as illustrated in Fig. 8. It is defined in the non-primary key definition information 232 that the "Store" table in the "SVR001" of the "Ordering