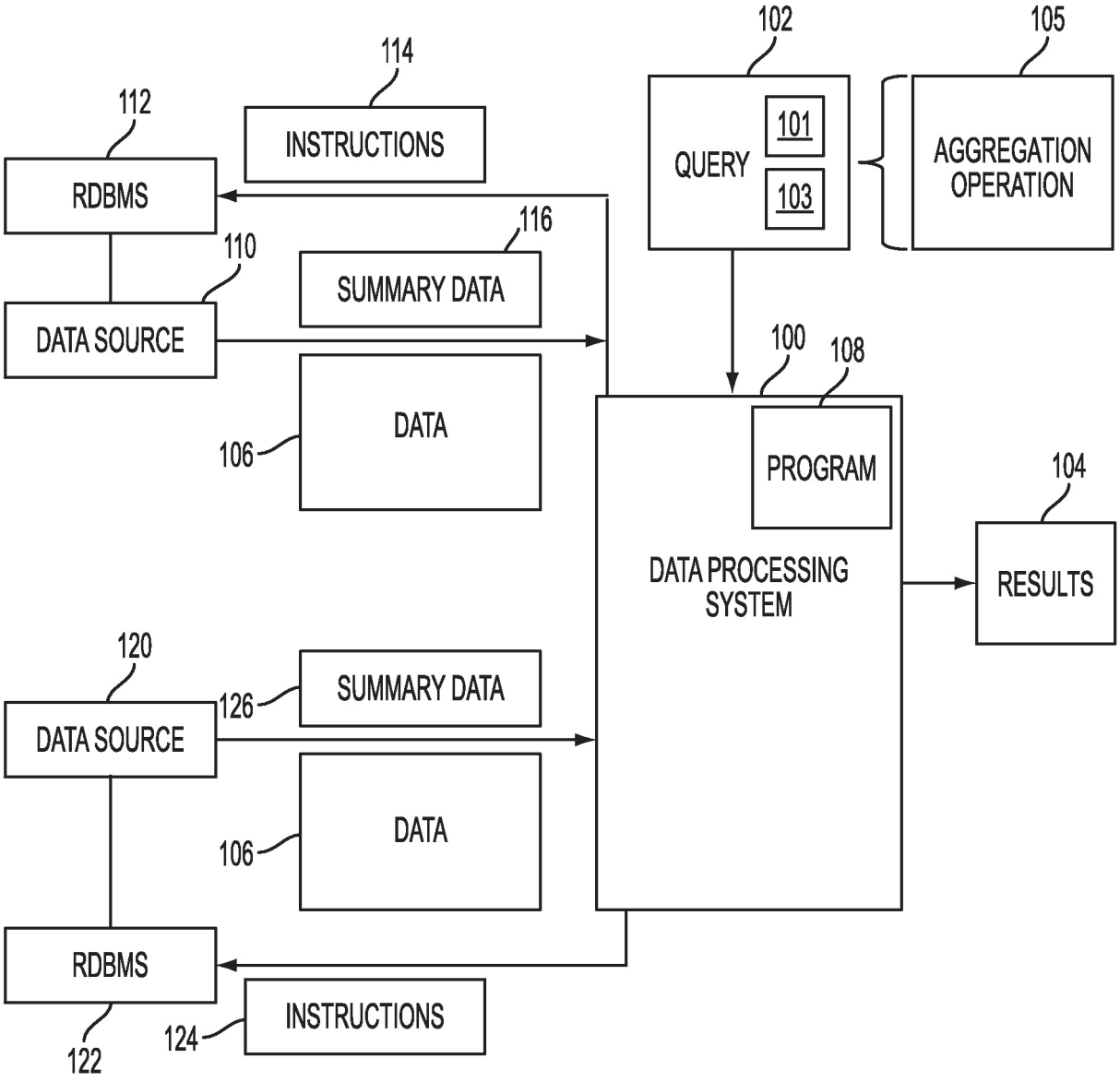

102
105
114
112
INSTRUCTIONS
QUERY
101
103
AGGREGATION OPERATION
RDBMS
116
110
SUMMARY DATA
DATA SOURCE
100
108
DATA
106
PROGRAM
104
DATA PROCESSING SYSTEM
RESULTS
120
126
SUMMARY DATA
DATA SOURCE
DATA
106
RDBMS
INSTRUCTIONS
124
122

FIG. 1

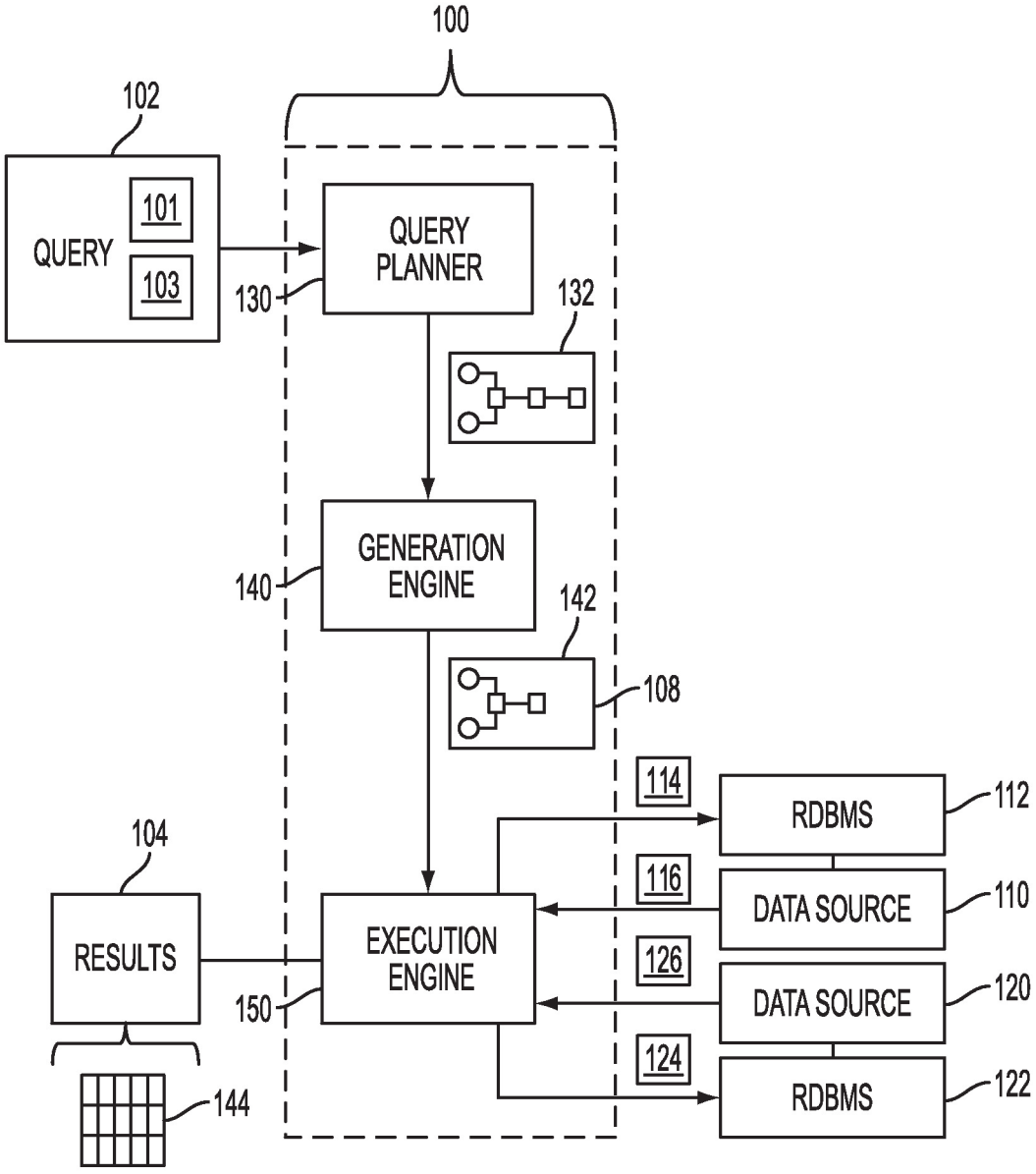
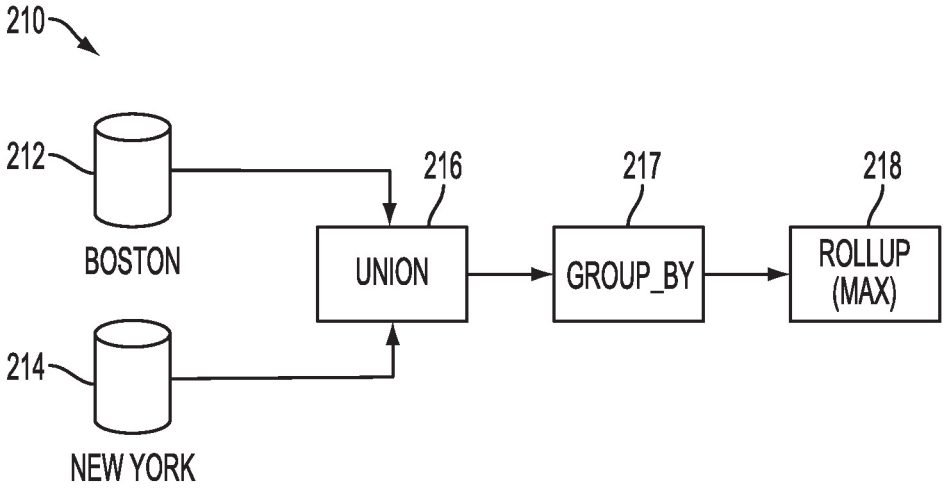

100
102
QUERY
101
103
QUERY PLANNER
130
132
GENERATION ENGINE
140
142
108
114
RDBMS
112
116
DATA SOURCE
110
126
DATA SOURCE
120
124
RDBMS
122
104
RESULTS
EXECUTION ENGINE
150
144

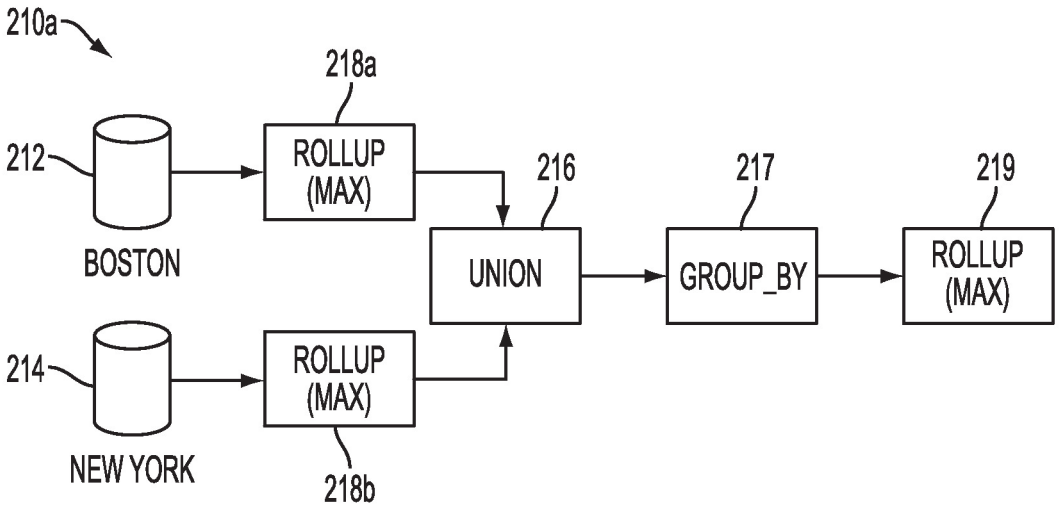
FIG. 2



200

```
SELECT
MAX(price),                                                    202
hotel_chain FROM
        (SELECT hotel_chain, price, address FROM Boston
        UNION
        SELECT hotel_chain, price, address FROM New York
GROUP_BY(hotel_chain)
                                                               204
```

FIG. 3



200

```
SELECT
MAX(price),
hotel_chain FROM
        (SELECT hotel_chain, price, address FROM Boston
        UNION
        SELECT hotel_chain, price, address FROM New York
GROUP_BY(hotel_chain)
```

FIG. 4

200

```
SELECT
MAX(price),
hotel_chain FROM
        (SELECT hotel_chain, price, address FROM Boston
        UNION
        SELECT hotel_chain, price, address FROM New York
GROUP_BY(hotel_chain)
```

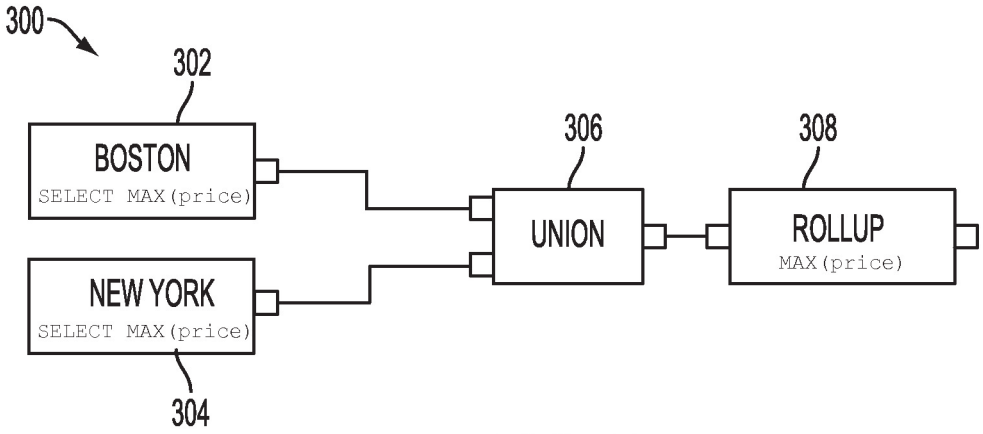


FIG. 5

200

```
SELECT
MAX(price),
hotel_chain FROM
        (SELECT hotel_chain, price, address FROM Boston
        UNION
        SELECT hotel_chain, price, address FROM New York
GROUP_BY(hotel_chain)
```

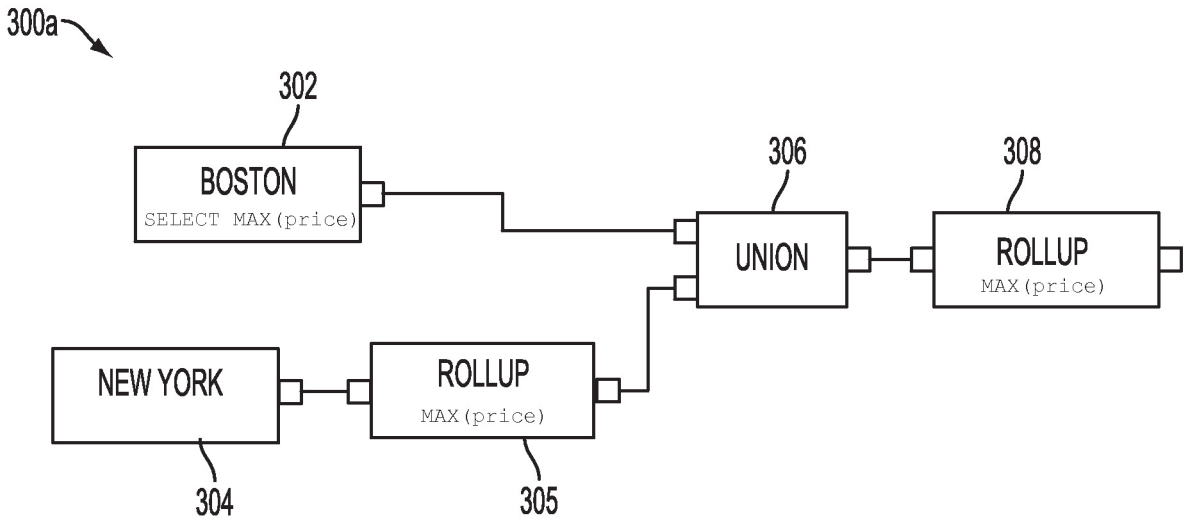


FIG. 6

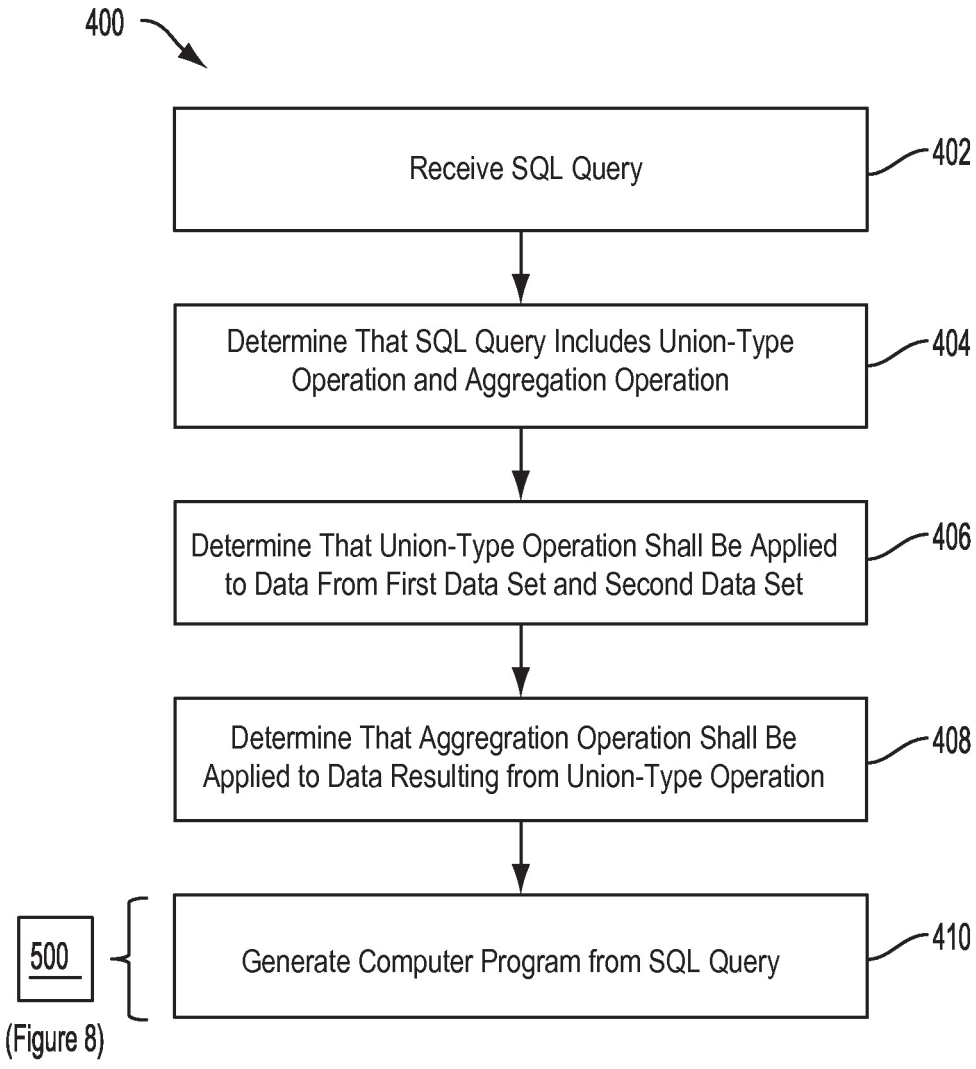

400
Receive SQL Query
402
Determine That SQL Query Includes Union-Type Operation and Aggregation Operation
404
Determine That Union-Type Operation Shall Be Applied to Data From First Data Set and Second Data Set
406
Determine That Aggregation Operation Shall Be Applied to Data Resulting from Union-Type Operation
408
500
Generate Computer Program from SQL Query
410
(Figure 8)

FIG. 7

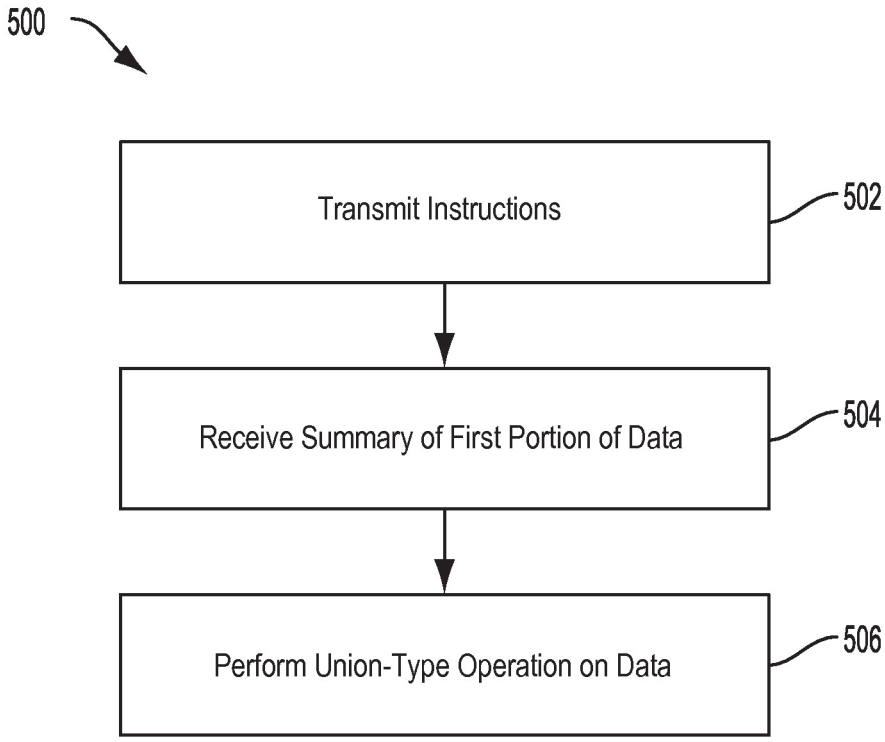

500
Transmit Instructions
502
Receive Summary of First Portion of Data
504
Perform Union-Type Operation on Data
506

FIG. 8