***Materialized View Design***

This part of the assignment is conceptual to encourage you to think about materialized view design for a reasonable size data warehouse. You have no queries to write or materialized views to create.

**Missing base queries**

To develop a complete set of base query requirements, you should compare base query requirements in Table 1 to business intelligence query needs described in the previous section. To structure your thoughts, you should use Table 6 to show missing base queries. You should enter the base query identifier for cells covered by the associated combination of measure and dimension. Enter X in a cell if the no base query covers the combination of measure and dimension and the dimension is relevant to the measure. Leave a cell blank if the combination of measure and dimension is not relevant. The time dimension is not in the matrix because time applies to every query.

Table 6: Base Query Specifications

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Dimension** | | | | |
| **Measure** | *Customer* | *Sales Class* | *Location* | *Machine Type* | *Sales Agent* |
| *Profit amount and margin* | X | X | BQ2, BQ3 | X |  |
| *Returns* | X | BQ4 | BQ4 |  |  |
| *Shipping delays* | X | BQ5, BQ6 | BQ5, BQ6 |  |  |
| *Revenue (job)* | X | X | BQ1 |  | X |
| *Revenue (invoice)* | X | X | BQ2 |  |  |
| *Costs (subjob)* |  | X | BQ3 | X |  |
| *Ratio among types of costs* |  | X | BQ3 | X |  |
| *Gross margin* | X | X | BQ2, BQ3 | X |  |
| *Forecasting performance* |  | X | X |  |  |
| *Budgeting performance* |  | X | X | X |  |
| *Intra company sales* |  | X | X |  |  |
| *Shared machine usage* |  |  | X | X |  |
| *Lead success rate* | X | X |  |  | X |

**Oracle tools**

Materialized view design is a complex process involving analysis of query workloads. The executive interview with Kellyn Gorman in module 4 covered highlights about Oracle tools to assist with materialized view design and improvement of query performance. In this part of the assignment, you should use the following references about the Automatic Workload Repository (AWR) to answer the questions shown in Table 7. I encourage you to read about the AWR in more detail than required to answer these questions.

AWR References

Oracle documentation

[https://docs.oracle.com/cd/B19306\_01/server.102/b14211/autostat.htm#CHDCBC](https://docs.oracle.com/cd/B19306_01/server.102/b14211/autostat.htm#CHDCBCEF)

[EF](https://docs.oracle.com/cd/B19306_01/server.102/b14211/autostat.htm#CHDCBCEF)

AWR tuning tips

[http://www.oracle.com/technetwork/database/manageability/diag-pack-ow09-](http://www.oracle.com/technetwork/database/manageability/diag-pack-ow09-133950.pdf)

[133950.pdf:](http://www.oracle.com/technetwork/database/manageability/diag-pack-ow09-133950.pdf)

AWR Questions

Table 7: Responses to the AWR Questions

|  |  |
| --- | --- |
| **Question No.** | **Question Detail/Response** |
| 1 | How is DB time measured in the AWR? Total time in database calls by foreground  sessions. Total time includes CPU time, I/O time, and non-idle wait time. |
| 2 | What is one dictionary table in the AWR? Identify the table name and at least three  columns in the table. AWR data includes four tables, DBA\_Hist\_Snapshot, DBA\_Hist\_System\_Event, DBA\_Hist\_SQLStat, and DBA\_Hist\_Time\_Model. For columns, see the following Oracle diagram after this table. |
| 3 | What is the name of the Oracle view table used by the Active Session History (ASH)  sampler? V$ACTIVE\_SESSION\_HISTORY |
| 4 | Identify at least two dimension columns in the ASH fact table? Columns in the  V$ACTIVE\_SESSION\_HISTORY are SQL statement identifier, object number, file number, block number, wait event number, session identifier, session serial number, module name, action name, client identifier, and database time. |

