1. Identify the grain in your dimensional design using the business needs as a guideline. You should then indicate relative storage requirements for the grain using the statistics for the data sources. Using the cardinality estimates provided, you should determine either the fact table size or sparsity and then compute the unknown grain size variable. For example, you should compute sparsity if the fact table size is given.

Ans. The most important grain for fact inventory are MerchId, MmbrId.

* 500 Merchandise Rows
* 50,000 Member Rows
* 365 Days Per Year
* Fact table size is determined by Contains rows: 450,000 per year
* Sparsity Estimate (FactInventory): 1 – (450,000/ (500 \* 50,000 \* 365))

= 1 – 0.00005

= 0.99995

* Most Important grain for fact service purchase are MmbrId, ServCatId
* 50,000 Member Rows
* 20 ServCatId
* 365 Days Per Year
* Fact table size is determined by SalesPurchase Rows: 100,000 per year
* Sparsity Estimate (FactServiceSale): 1 – (100,000 / (50,000 \* 20 \* 365))

= 1 – (0.003)

= 0.997