Problem 3

**Grain**

Detecting **fact table** size:

Fact table size equals the sum of sold merch, services and special events

Number of merch purchases is taken from Contains table = 450000

Services sales detected by ServPurchase table = 10000

Special events should be taken from Worksheet = 300 per 200 franchises = 60000

Detecting dimensions sizes:

**Franchise** = 350

**Product** is sum of unique products from Merchandise, ServiceCategory, Worksheet = 500+20+150=670

As number of unique Event type codes for Worksheet is not specified I supposing that every unique corporate customer has unique event (150).

**Customer** is sum of unique members and corporate customers = 50000+150=50150

**Calendar** has 365 rows

Sparsity = 1 – (60000/(350\*670\*50150\*365))= 0.999999986022