Problem 3

For detailed grain, the following estimations are taken into considerations.

* 350 Franchises(ERD) + 200 Franchises (Special Events) = 550,

500 Merchandises + 20 Service categories + 1 Event type = 521,

50000(Members) + 30000(150 Unique customers \* 200 Franchises) = 80000.

* Merchandise sales are qunatities multiplied by unitprice = 450000

Services Purchase are 100000

Special events (worksheet) = 300\*200 = 60000

Fact table size is 610000 rows.

* Sparsity estimate:
  + 1- (fact table / product of dimensions)
  + 1- ( 610000/(550\*521\*80000\*365))
  + = 0.999999927096
  + The data cube has mostly missing cells with slightly more than 1% of cells with non zero values.