**Problem 3:**

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| **Cube** | **Grain** | **Unadjusted Size** | **Sparsity** |
| Invoice | Week, Customer, Location, SalesAgent, SalesClass  Day, Customer, Location, SalesAgent, SalesClass | W = 52 \* C = 300 \* L = 10\* SA = 50 \* SC = 6  == 4,68,00,000  D = 365 \* C = 300 \* L = 10 \* SA = 50 \* SC = 6 == 32,85,00,000 | 1 -(4,37,0276/4,68,00,000) == 0.90661  2 -(4,37,0276/32,85,00,000) == 1.9866 |
| Job | Week, Customer, Location, SalesAgent, SalesClass  Day, Customer, Location, SalesAgent, SalesClass | W = 52 \* C = 300 \* L = 10 \* SA = 50 \* SC = 6 ==4,68,00,000  D = 365 \* C = 300 \* L = 10 \* SA = 50 \* SC = 6 == 32,85,00,000 | 1 -(4,37,0276/4,68,00,000) == 0.90661  2 -(4,37,0276/32,85,00,000) == 1.9866 |
| Sub Job | Week, Customer, Customer\_Location, Location, Machine\_Type, SalesAgent, SalesClass  Day, Customer, Customer\_Location,  Location, Machine\_Type, SalesAgent, SalesClass | W = 52 \* C = 300 \* CL = 10000 \*L = 10 \* MT = 10 \* SA = 50 \* SC = 6 == 46,80,00,00,00,000  D = 365 \* C = 300 \* CL = 10000 \* L = 10 \* MT = 10 \* SA = 50 \* SC = 6 == 3,28,50,00,00,00,000 | 1 – (4,37,0276/46,80,00,00,00,000) == 0.999  2 –(4,37,0276/3,28,50,00,00,00,000) == 1.99 |
| Shipment | Week, Customer, Customer\_Location, Location, Machine\_Type, SalesAgent, SalesClass  Day, Customer, Customer\_Location,  Location, Machine\_Type,  SalesClass | W = 52 \* C = 300 \* CL = 10000 \* L = 10 \* MT = 10 \* SA = 50 \* SC = 6 == 46,80,00,00,00,000  D = 365 \* C = 300 \* CL = 10000 \* L = 10 \* MT = 10 \* SC = 6 == 6,57,00,00,00,00,000 | 1 – (4,37,0276/46,80,00,00,00,000) == 0.999  2-( 4,37,0276/6,57,00,00,00,00,000) == 1.99 |
| Financial Sales Summary | Week, Customer,  Location, SalesAgent, SalesClass  Day, Customer, Location, SalesAgent, SalesClass | W = 52 \* C = 300 \*  L = 10 \* SA = 50 \* SC = 6 == 4,68,00,000  D = 365 \* C = 300 \* L = 10 \* SA = 50 \* SC = 6 == 32,85,00,000 | 1 -(4,37,0276/4,68,00,000) == 0.90661  2 -(4,37,0276/32,85,00,000) == 1.9866 |
| Financial Cost Summary | Week, Customer,  Location, Machine\_Type,  SalesClass  Day, Customer,  Location, Machine\_Type,  SalesClass | W = 52 \* C = 300 \* L = 10 \* MT = 10 \* SC = 6 == 93,60,000  D = 365 \* C = 300 \* L = 10 \* MT = 10 \* SC = 6 == 6,57,00,000 | 1-(4,37,0276/93,60,000) == 0.533  2-(4,37,0276/6,57,00,000) == 1.93 |
| Lead | Week, Customer, SalesAgent, SalesClass  Day, Customer, SalesAgent, SalesClass | W = 52 \* C = 300 \* SA = 50 \* SC = 6 == 46,80,000  D = 365 \* C = 300 \* SA = 50 \* SC = 6 == 3,28,50,000 | 1-(4,37,0276/46,80,000) == 0.066  2 –(4,37,0276/3,28,50,000) == 1.866 |