

`CSE 344 Section 7

1. You're given the following relations and grocery store stats:

Safeway(id, name, category, price)

T=1000, V(name)=900, V(category)=10, V(price)=200, Range(price) = [1,50)

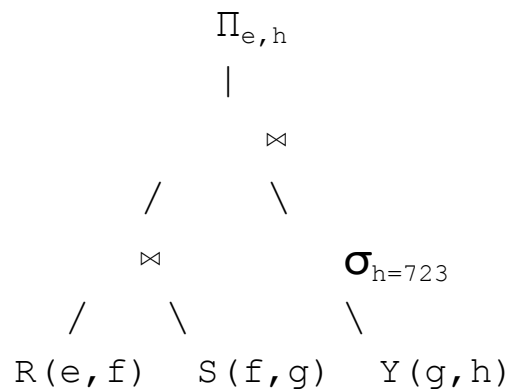
QFC(id, name, category, price)

T=2000, V(name)=1900, V(category)=12, V(price)=500

Estimate the cardinality for the following queries:

- Select * from Safeway where id = 45
- Select * from Safeway where name = 'Milk'
- Select * from Safeway where price < 20
- Select * from Safeway S, Qfc Q where S.id = Q.id
- Select * from Safeway S, Qfc Q where S.name = Q.name

2. (Adapted from 414 SP 17 Final)



Consider the relations $R(e, f)$, $S(f, g)$, and $Y(g, h)$ in the query plan depicted above.

- Joins are natural joins that perform on matching attributes (e.g. $R \text{ join } S$ on $R.f = S.f$)
- Every attribute is integer-valued
- Assume uniform distributions on the attributes

Table	#tuples
R	1,000
S	5,000
Y	100,000

Attribute	# distinct values	Minimum	Maximum
R.f	100	1	1,000
S.f	1,000	1	2,000
S.g	5,000	1	2,000
Y.g	1,000	1	10,000
Y.h	1,000	1	500,000

A. Estimate the number of tuples in the selection $\sigma_{h=723}(Y)$.

B. Estimate the number of tuples in the join $R \bowtie S$.

C. Estimate the cardinality of the final result.