Class Exercise 6

This exercise is based upon Chapter 6 of the SAS Advanced Certification Prep Guide. We will simply create some indices and check their performance against each other, and against SAS’s default choices.

Begin by importing the Bacterial data set from Excel into WORK.WQ, and then save a copy that will have no indices:

proc sql;

create table wqnix as

select \* from wq;

quit;

We will next create a series of indices. The column RECORD is unique, so we should use the following command to create an index based on RECORD:

proc sql;

create unique index record on

wq(record);

quit;

Create another index using the variable FECALREMARK. Now plot the variable FECALREMARK using VBAR in PROC SGPLOT. Should this variable be recommended for an index? Why or why not?

We should be able to create a near-unique *composite*  index using STATION and COLLECTION\_DATE whose performance can be compared to RECORD.

proc sql;

create index sitedate on

wq(station, collection\_date);

quit;

Graduate students: Create a third table, WQSORT, by sorting WQ on STATION and COLLECTION\_DATE, and create a composite index for that table identical to the one above.

We can now compare some sorts for the following query (the table name WQ will change as you change tables).

**proc** **sql**;

select \* from wq where station like **'**B%**'** and fecalcoli gt 200

and fecalremark in(**'**EST**'**, **'**GT**'**);

quit;

Record Real Time and CPU Time when running the above query on the following (one or more of these choices may not produce a result); be sure to add OPTIONS MSGLEVEL=I; to your code before running queries and use IDXNAME as needed. Summarize your results.

1. WQ with default query. Was an index selected? Which one?
2. WQSORT (graduate students)
3. WQNIX
4. WQ with RECORD index
5. WQ with SITEDATE index
6. WQ with FECALREMARK index