Writeup Lab 4

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Describe any design decisions you made.

Ex1: Use an array `buckets` to record the height of the bar. No change for `StringHistogram`.

Ex2: First get the related `TupleDesc`, check and create the histograms. Then use another scan to build histograms and estimate the costs.

Ex3: Use the simple estimation. (Specifically, for range scans, use 30% of the product of cards as the cost.)

Ex4: Use Selinger optimizer as the pseudocode.

Discuss and justify any changes you made to the API.

None to my knowledge.

Describe any missing or incomplete elements of your code.

None to my knowledge.

Describe how long you spent on the lab, and whether there was anything you found particularly difficult or confusing.

2 Days. Nothing particularly difficult. The document explained the costs very clear.