Results

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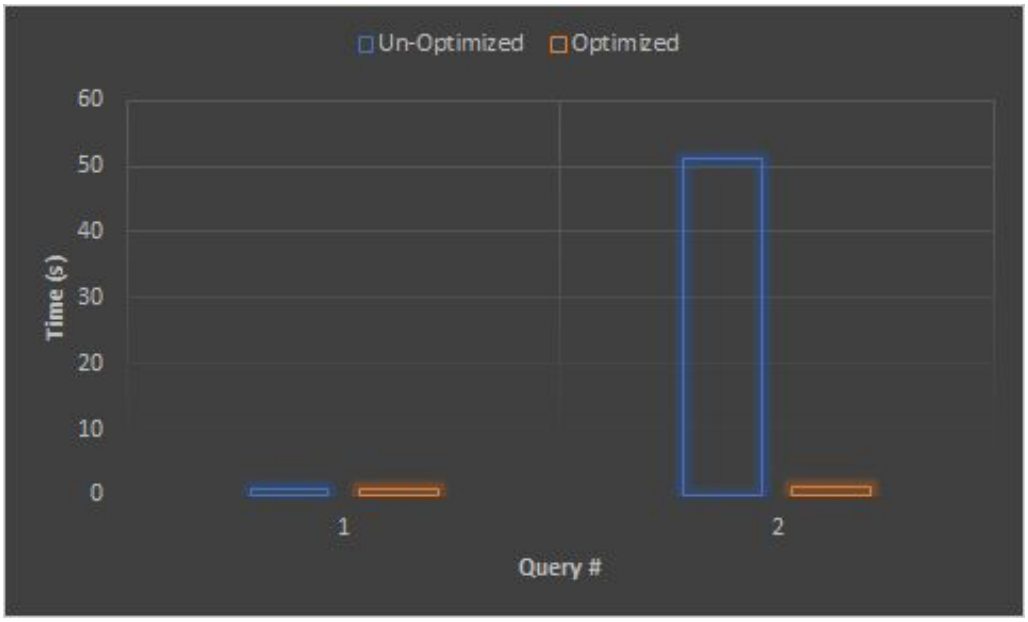
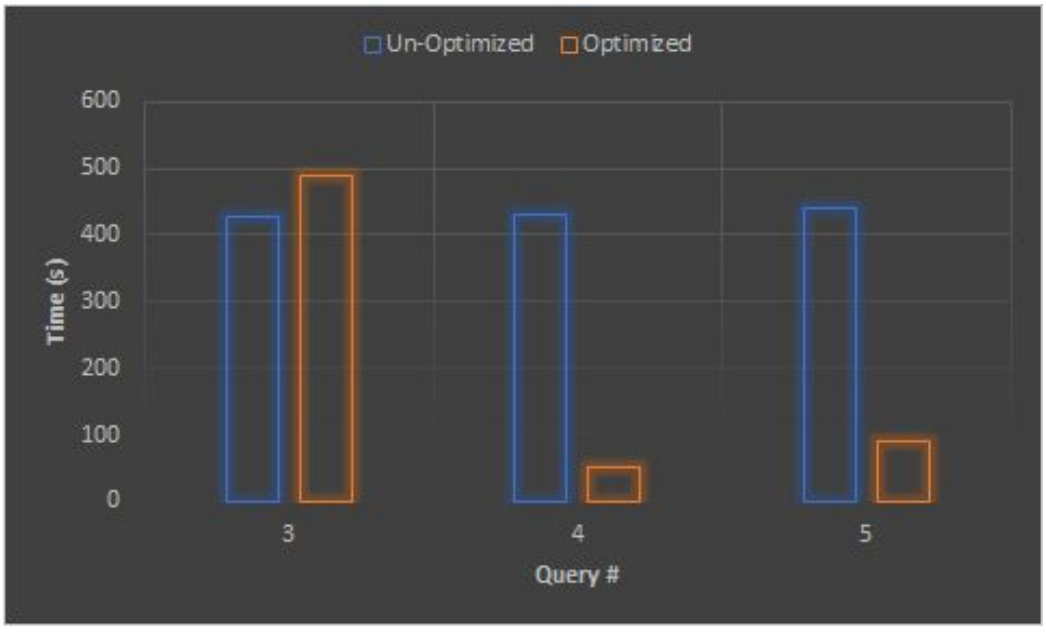
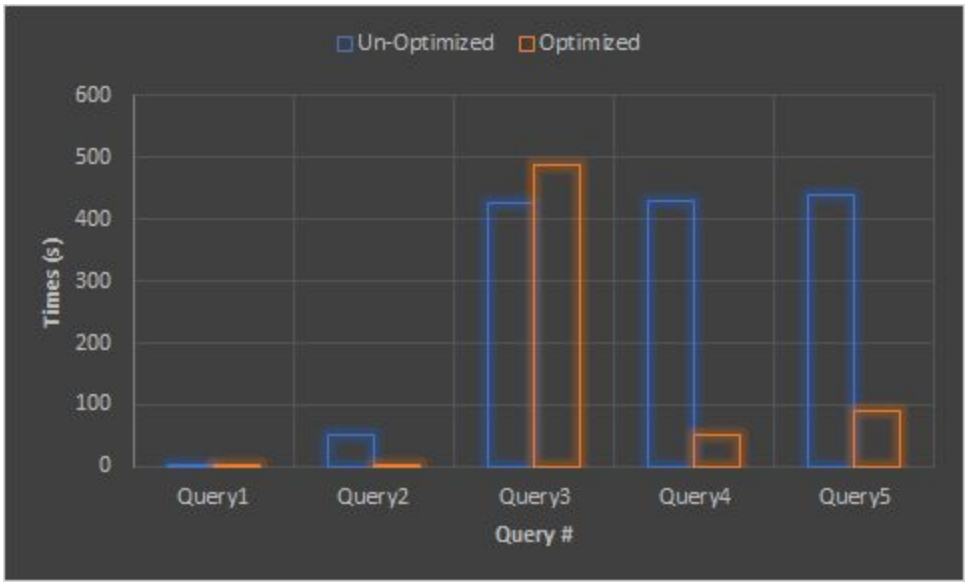
To run our experiments, we implemented the tests in “experiments.py”, which will build, run and optimize them.





From our testing results, there is a clear reduction in runtime when the R-System Optimizer is used versus when it is not. The only exception being Query 3 where using the optimizer actually increased run time. This was true even for drastically different sampling rates. We plotted Query 1 and 2 on separate plots to view the data easier.



All 5 Query tests combined on one plot.

Conclusion: Queries with more joins, groups, and selects significantly reduces the run time when the optimizer is used. Smaller queries and with smaller data sets have smaller differences.

	Query1	**Query2**	**Query3**	**Query4**	**Query5**
Regular (s)	1.0356	51.064	427.54	430.47	439.02
Optimized (s)	0.8779	1.3903	487.42	50.232	90.028