

# SSBSE Paper Plan

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## Story Line

- Test Time Generation
- Directed Random is faster in regards to AVM and AVM-Defaults.
- Coverage
- As Directed Random is faster it has the same coverage as the rest of the techniques.
- Mutation Score
- Directed Random has the higher or similar mutation score comparing to AVM and AVM-Defaults.

## RQs

### Test Time Generation

How efficient Directed Random in regard of test time generation comparing to the other data generators?

### Coverage

How do the number of test requirements generated by the coverage criteria differ depending on the data generation technique being used, and how successfully can test cases be automatically generated to satisfy them?

### Fault-Finding Effectiveness

How does fault finding effectiveness vary depending on data generation technique used?

## What Plots ?

### Test time generation (Efficiency)

### Coverage

### Mutation Score

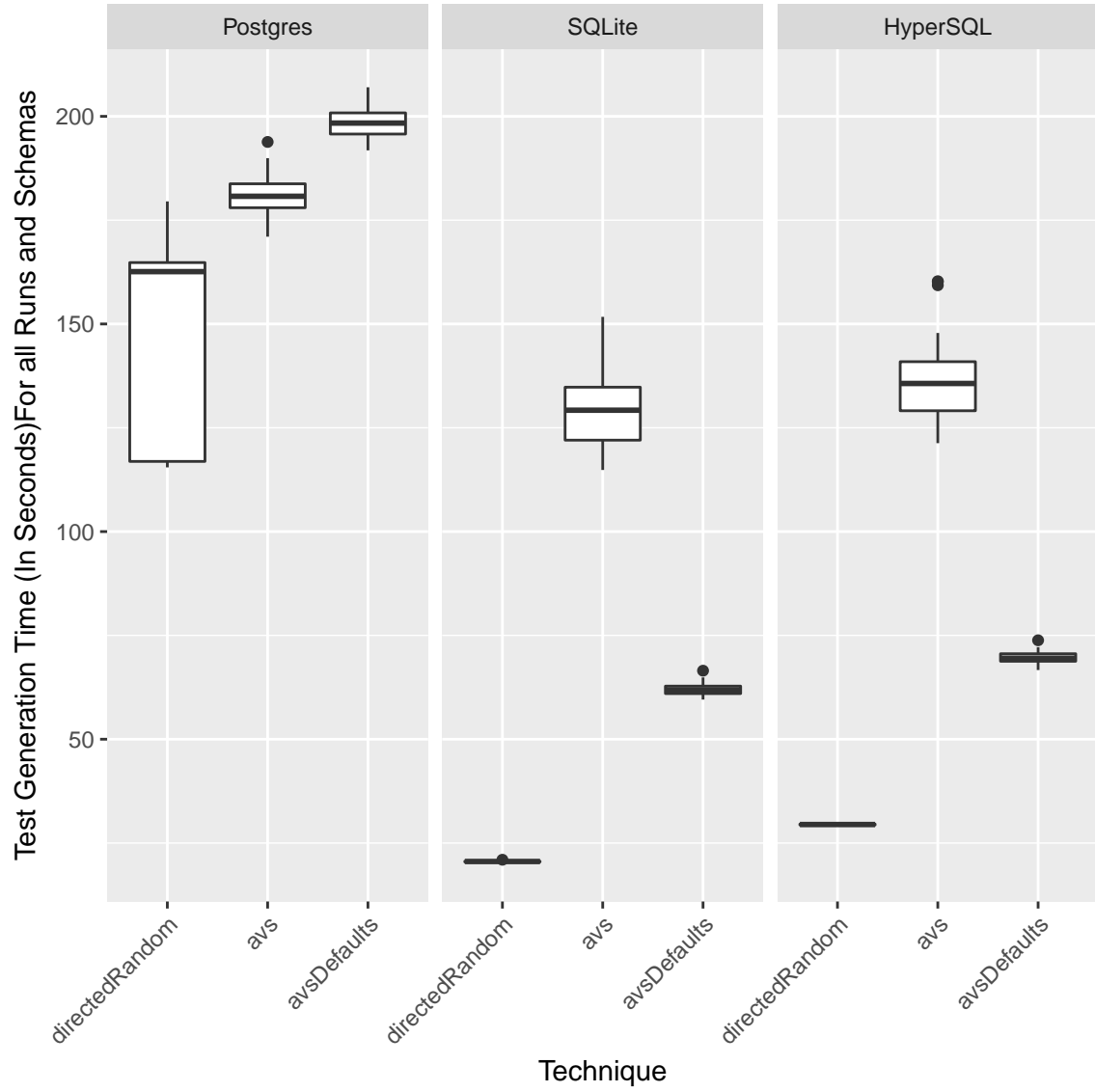


Figure 1: Test generation timing - in seconds. First summing test generation timing for each run then group by data generator and DBMS, then divide test generation timing by 1000 to convert to second.



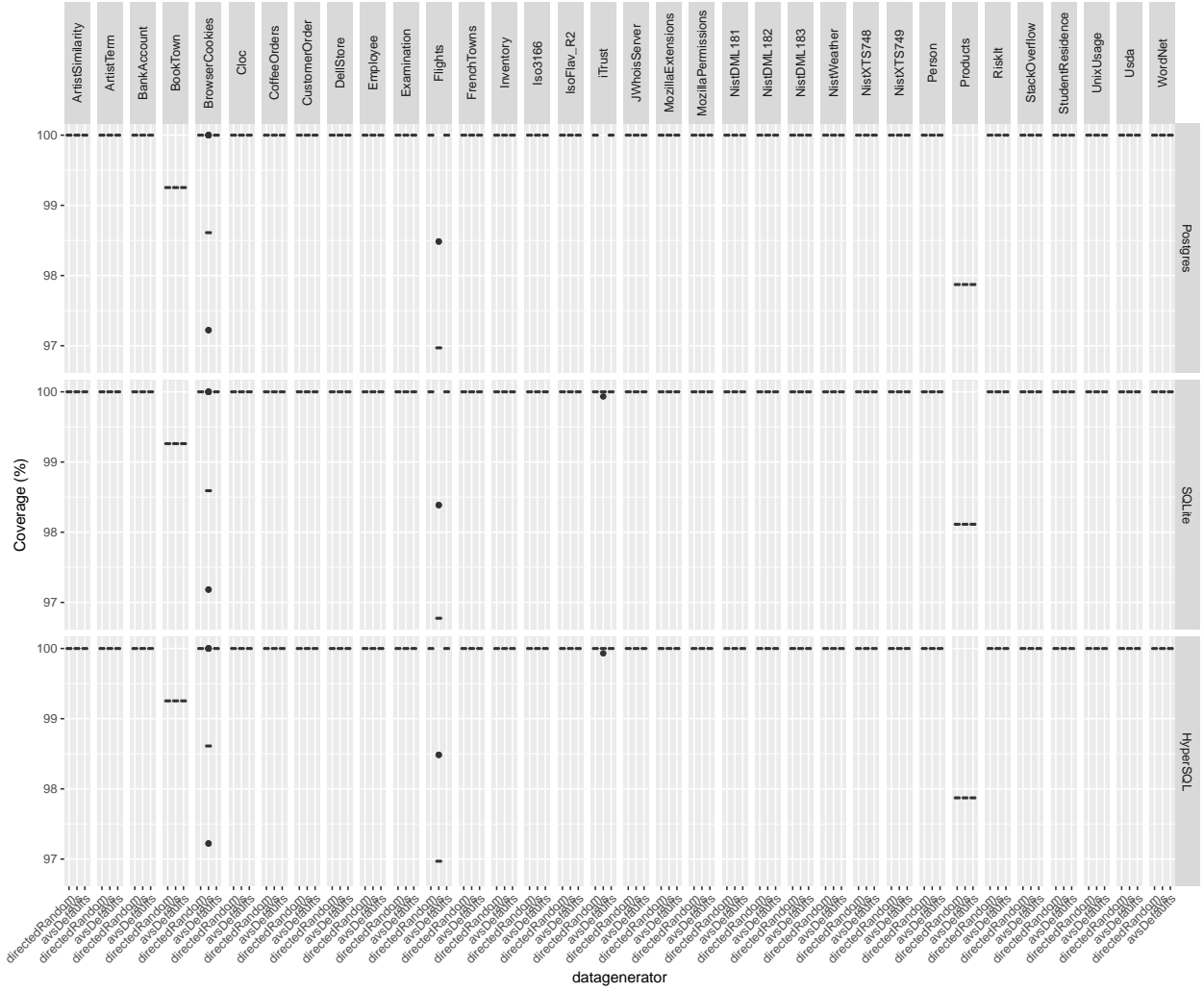


Figure 3: Box plot for Coverage

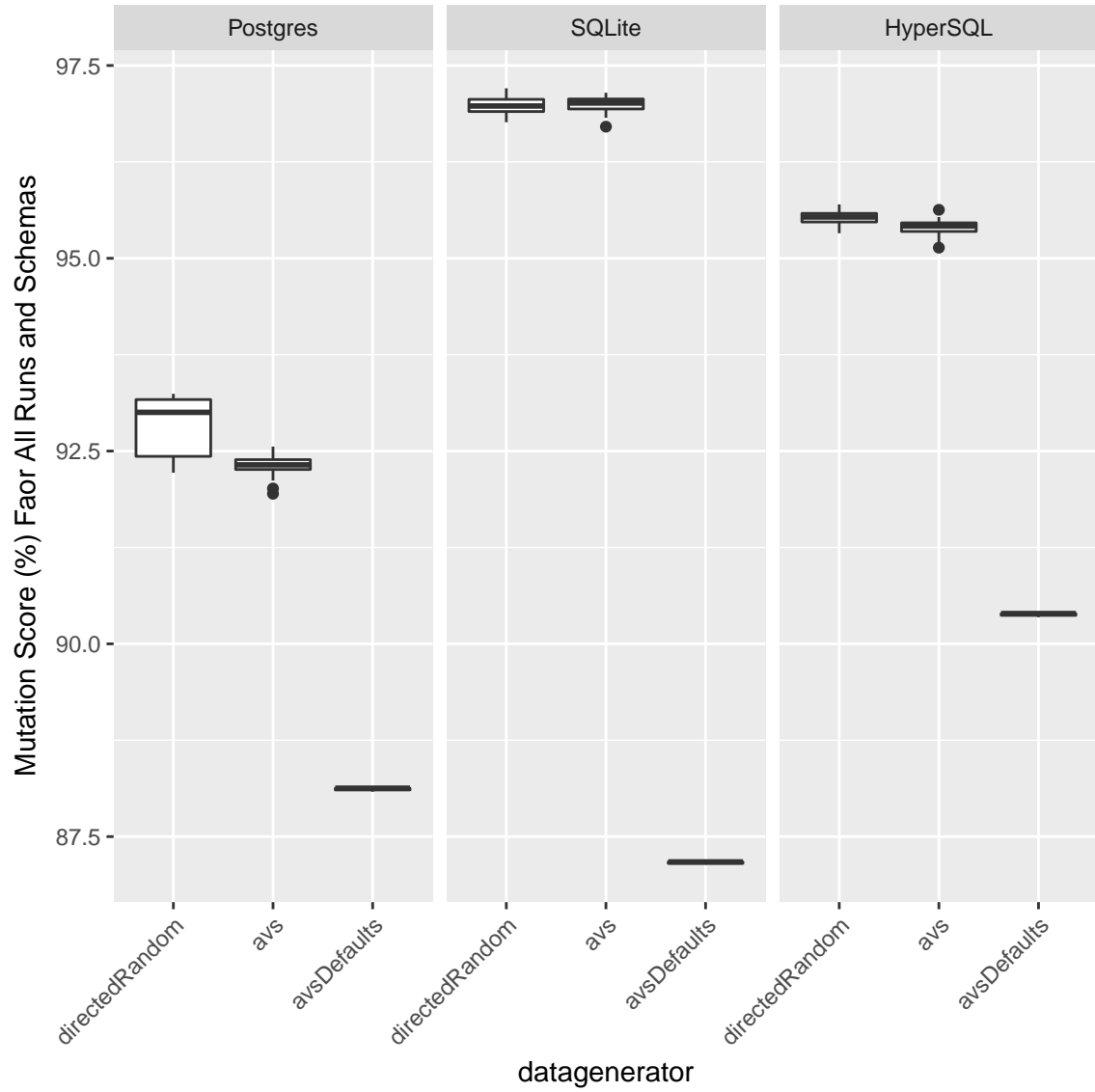


Figure 4: Box plot for mutation scores for DBMSs and techniques - in precentage. Frist I sum all score numerator and denominator per run per DBMS per data generator, then plottig using group by data generator, DBMS and dividing the score numerator by denominator multiplying by 100



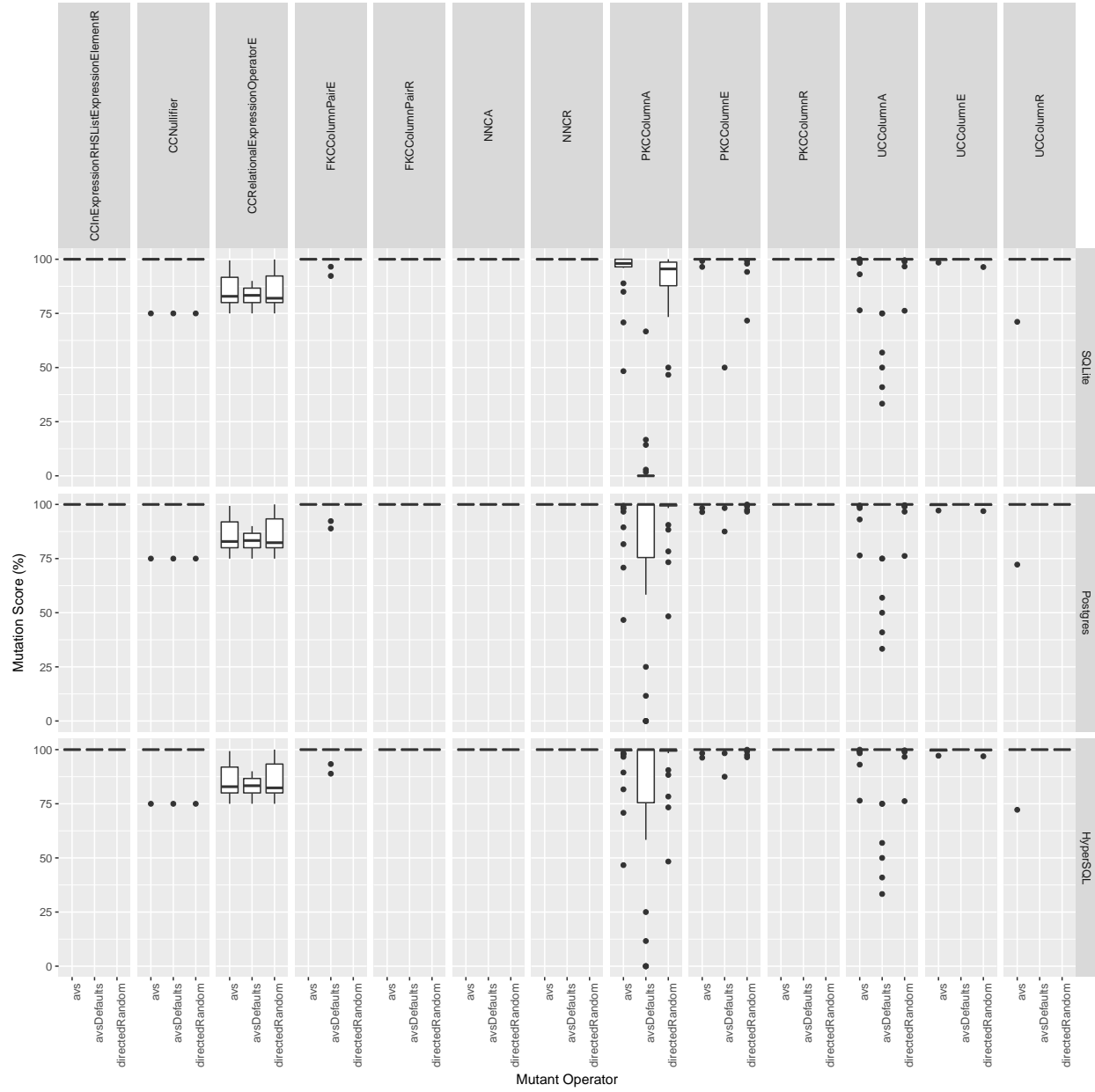


Figure 6: Box Plot of mutant scores in regard of Mutant Operators and DBMSs - in percentage. Using mutanttiming file, I group by generator, DBMS, schema and operator. Then I only select NORMAL mutants, then calculating the percentage of killed mutant by summing all killed divided by (killed mutant plus alive mutant) multiply by 100.