An Introduction to Algorithms in LaTeX

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1 Introduction

```
K ← ∅
for each mutant do
    Create tables in database for mutant
    for each sqlInsertStatement in testSuite do
        originalResult ← Pre-computed result of insert with non-mutant
        mutantResult ← executeWithDBMS(sqlInsertStatement)
        if originalResult ≠ mutantResult then
            K ← K ∪ mutant
        end if
    end for
    Remove tables in database for mutant
end for
```

Figure 1: Kapfhammer et al.'s mutation analysis algorithm, referred to as the "Original" approach in this paper

```
▷ 1. Meta-mutant creation
for each mutant do
    Prefix names of tables in mutant with unique mutant ID
end for
Create tables in database for all mutants

▷ 2. Mutant evaluation
K ← ∅
for each mutant do
    killed ← false
    for each sqlInsertStatement in testSuite do
        sqlInsertStatement' ← sqlInsertStatement modified to use unique mutant ID of mutant for table names
        originalResult ← Pre-computed result of insert with non-mutant
        mutantResult ← executeWithDBMS(sqlInsertStatement)
        if originalResult ≠ mutantResult then
            K ← K ∪ mutant
        end if
    end for
end for

▷ 3. Clean up
Remove tables in database for all mutants
```

Figure 2: “Full Schemata” mutation analysis algorithm

Can you create your own LaTeX document to write the psuedo code for another algorithm in the *Efficient Mutation Analysis of Relational Database Structure Using Mutant Schemata and Parallelisation* paper?