Richard Thai and Tan Lin
Dr. Sriram Mohan
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Lab 8

1) The Number of Parameters metric is outside of range due to a constructor for TwitterClient.

2) I would adjust the optimal range of the given metrics to accept the amount found in the constructor.

3) The code has a cyclomatic complexity of 10, keeping it within the heuristic.

4) There are three independent paths that need to be tested within backOff. The first path occurs if backOffMillis is zero. The second path occurs if backOffMillis is not zero and backOffMillis is less than or equal to capMillis. The third path occurs if backOffMillis is not zero and backOffMillis is greater than capMillis.

5) Afferent coupling is the amount of packages that depend on the classes within the current package (how responsible the package is).
Efferent coupling is the amount of packages that the classes within the current package depend upon (how independent the package is).
These metrics can give hints as to where an error may be stemming from (based off of package dependency).

6) High (Top) Level Design (I0) Inspection Effectiveness
Defects found and removed at I0: 806
Defects existing on step entry (escapes from requirements phase: 154
Defects injected in current phase: 928
E(I0) = 806/(154+928) * 100 = 74%

7) Low Level Design (I1) Inspection Effectiveness
Defects found and removed at I1: 761
Defects existing on step entry (escapes from requirements phase and I0): 152+928-806 = 274
Defects injected in current phase: 948
E(I1) = 761/(274+948) * 100 = 62%

8) Overall Defect Removal Effectiveness of the development process
DRE = (0 + 806 +761 + 1144 +346 +267 +76) / (154 +928 + 948 +1469 + 12 +10 + 2) * 100% = 96.5%
DRE is also equal to (1 – Defects in field/total defects) * 100% = (1 – 126 / 3465) * 100 = 96.3%