• [Question 1 (5 pts)] Please identify the metrics whose values are outside the optimal range. Also identify the methods that are responsible for this.

The "Number of Parameters" metric is the only one out of its optimal range. This is caused by the constructer, which has SEVEN parameters.

• [Question 2 (5 pts)] Please provide a strategy or solution (without writing code) that will bring the value of the given metrics into an optimal range.

maxFollowIdsPerCredentials, maxTrackKeywordsPerCredentials and processForMillis could be made final values because they should be universal and remain constant for all accounts.

• [Question 3 (5 pts)] A good heuristic for cyclomatic complexity is to keep it below 15. Does this code meet that heuristic?

Yes, its maximum (McCabe) cyclomatic complexity, as shown by the metric, is 10.

• [Question 4 (5 pts)] Cyclomatic complexity can be used to identify the number of independent paths that need to be tested in a method. Please identify the number of independent paths in the method backOff in the inner class BackOff in TwitterClient.java. Identify conditions that would lead to each of these paths. (These conditions establish test cases for the method.)

The cyclomatic complexity of backOff is 3. The conditions that could cause each of these paths to arise are:

backOffMillis = 0
backOffMillis !=0, backOffMillis < capMillis
backOffMillis !=0, backOffMillis > capMillis

• [Question 5 (5 pts)] Explain, in your own words, the "afferent coupling" and "efferent coupling"methods. Describe how they can be used in project analysis.

Afferent coupling is a measure of the number of classes in other packages that depend on the analyzed package. Efferent coupling is a measure of the number of types in the current package dependent on types of other packages.

• [Question 6 (5 pts)] Compute the effectiveness of Top Level Design inspection activities.

806/(928+154) = .745, so 74.5%

• [Question 7 (5 pts)] Compute the effectiveness of Low Level Design inspection activities.

761/(948+928+154-806) = .622, so 62.2%

• [Question 8 (5 pts)] Compute the overall defect removal effectiveness of the development process.

3526/(3526+3+2+10+12+1469+948+928+154-126-76-267-346-1144-761-806) = 1, so 100%