

Lab 8 Questions

1. The only metric that is out of bounds is number of parameters per method.
The TwitterClient constructor takes 7 arguments, which is greater than the maximum number.
2. We could bring the parameters into a proper range by reducing the number of fields initialized in the constructor. For instance, instead of calling createCredentials(credentials) inside the constructor, we could make a public assignCredentials() method and call it wherever we had created the object. This is not necessarily a better solution, but it would pass the metrics.
3. Yes, the maximum in the project is 10.
4. There are 3 paths in the backOff method. The conditions for these paths are below:
Path 1: backOffMillis == 0
Path 2: backOffMillis != 0 && backOffMillis > capMillis
Path 3: backOffMillis != 0 && backOffMillis <= capMillis
5. Afferent coupling is a metric which tells us how many other packages rely on classes within the given package. This gives us an idea of the importance and/or responsibility of a package. Efferent coupling tells us how many other packages the given package's classes rely on. This metric gives us an idea of how independent a package is.
6. $Top\ Level\ Design\ Effectiveness = \frac{53+753}{154+928} \times 100\% = 74.5\%$
7. $Low\ Level\ Design\ Effectiveness = \frac{3+65+693}{154+928-806+948} \times 100\% = 62.2\%$
8. $Overall\ Defect\ Removal\ Effectiveness = \left(1 - \frac{126}{3526}\right) \times 100\% = 96.4\%$