1 Model Definition

The following is done in a single iteration. The process operates on a graph $G = (V, E)$.

1. Chose a vertex v_0 randomly from the set of all vertices.

2. Do nothing if $deg(v_0) = 0$.

3. For some edge e^* that is incident to v_0, break e^* with probability

$$I\frac{c}{d^*} + (1 - I)\frac{1}{deg(v_0)} \tag{1}$$

   where d^* is the degree of the *other* vertex that e^* is incident to.

4. Add a new edge $\{v_0, v'\}$ with v' chosen randomly from $V \setminus \{v_0\}$.

In the probability function, c is some normalizing coeffecient such that $\frac{c}{d^*} \leq 1$. This is sufficient to normalize the entire probability function. The variable I represents *intolerance*. If $I = 0$, each edge has the same chance of being broken. If $I = 1$, the chance that e^* is broken is $\frac{c}{d^*}$.