Report:

From my observations:

* At i=0, as k kept increasing we saw a drastic drop in success rate initially(k=1-4), however upon further increase the success rate slowly grew to around 50% by the time k=1024.
* At i=2, as k kept increasing from 1—4 we saw a success rate rise from 20 to 70 percent, however as k kept increasing those success numbers decreased, approaching 50% by the time k=1024.
* From i=4-8, the success kept on rising until the k=16,64, and 256 respectively where it dipped approaching 50% mark at k=1024.
* When i=10, we see an exponential increase in success chance as the number of stations goes up.
* In conclusion as the number of transmitting stations approaches the number of total stations there is an apparent exponential increase in success rate. However, there is also an inverse proportional relationship with the number of K and initial success rate of i=1-8.

**Manual:**

* Compile the file with g++ a4.cpp
* The result will be a Success, Idle, and Collision table
* The program was tested with k=8 first at level =0. I then added level functionality in levelCheck() and tested the program with k=1024.