Mason McBride
15 February, 2022
Professor Marta Gonzalez
CYPLAN C88

Assignment1 part2: Data vs. Models

	total_nodes	total_links	<C> avg clust. coeff.	<K> mean degree	<L> avg. shor. pat.
Data from Network	1039	5801	0.2806277959	11.16650626	2.571991929
Small World Network (p=0.01..)	1039	5195	0.6454334351	10	2.878677075
Barabasi Albert (m=5.583...)	1039	5170	0.04684136876	9.951876805	2.878677075
Erdos-Renji	1039	5702	0.01157132953	10.9759384	2.878677075

Q1. Done. (see: Notebook as g)
Q2. Done. (see: Notebook as g_erdos_renyi)
Q3. Done. (see: Notebook as C_p_k and L_p_k)
Q4. C(p) = C(0) * (1 - p)^3
Q5. Done. (see: Notebook as g_small_world)
Q6. Done. (see: Notebook as g_barabasi_albert)
Q7. Done. (see: Notebook)
Q8. The model resembles the Barabasi Albert model because the data in the tables are similar and the degree distribution resembles of negative power law
Q9. Yes, C >> C_random (.28 >> 0.01), and L =~ L_random (2.899 ~= 2.57)