

NETWORKS AND COMPLEXITY

Solution 5-5

*This is an example solution from the forthcoming book *Networks and Complexity*.*

Find more exercises at <https://github.com/NC-Book/NCB>

Ex 5.5: Social diameter of Iceland [2]

Iceland has a population of 340,000. Let's assume that the mean degree of the acquaintance network in Iceland is $z = 120$ and the clustering coefficient is $c = 0.2$. Estimate the social diameter of Iceland.

Solution

We can use our formula for diameter with clustering

$$D = \log_{(1-c)z}((1-c)N) \tag{1}$$

$$= \log_{96}(272,000) \tag{2}$$

$$\approx 2.74 \tag{3}$$