Feedback — Optional programming assignment 3

Help

You submitted this homework on **Thu 11 Dec 2014 12:11 PM EET**. You got a score of **0.00** out of **10.00**. You can attempt again, if you'd like.

You can use this template. Here is the dataset.

Question 1

What is the size of the largest clique in the Wikipedia network?

Your Answer	Score	Explanation
○ 27		
○ 5		
○ 22		
○ 13		
Total	0.00 / 2.00	

Question Explanation

the function largest.cliques() finds the largest clique in the network

Question 2

What is the largest k-core any vertex in the network belongs to?

Your Answer	Score	Explanation
○ 21		
○ 3		
○ 8		
○ 46		

Total	0.00 / 2.00

Question Explanation

Try the graph.coreness() function.

Question 3

Apply the fastgreedy community finding algorithm. The four largest communities comprise roughly what percentage of the graph?

Your Answer	Score	Explanation
○ 50%		
○ 20%		
○ 10%		
○ 70%		
Total	0.00 / 2.00	

Question Explanation

As is typical for the fastgreedy algorithm, it finds a few very (overly) large communities and many small ones.

Question 4

Next use the InfoMap community finding algorithm. Observe the sizes of the communities and examine their contents (i.e. the names of the pages within communities). Relative to the fastgreedy community finding algorithm, the InfoMap community algorithm:

Your Answer	Score	Explanation
○ finds larger communities		
○ finds more moderately sized communities		
○ finds lower quality communities (the communities are composed of topically unrelated nodes)		
Total	0.00 / 2.00	

Question Explanation

The InfoMap algorithm typically succeeds in identifying meaningful communities.

Question 5

Use the modularity() function to find the modularity of each of the two resulting community partitions. How do the two ways of partitioning the graph compare?

Your Answer	Score	Explanation
○ Fastgreedy produces a partitioning with higher modularity.		
○ Both algorithms achieve nearly the same modularity.		
○ InfoMap produces a partitioning with higher modularity.		
Total	0.00 / 2.00	

Question Explanation

The fastgreedy algorithm seeks to optimize modularity. The InfoMap algorithm seeks to encode in a minimum message length the path of the random walker on the network (using local codes for transitions within communities, and 'prefixes' for transitions between communities). Hence the InfoMap algorithm is not optimizing modularity directly. It can, however, yield high-quality community structure.