CS224w:
Social and Information Network Analysis

Assignment Submission Fill in and include this cover sheet with each of your assignments. Assignments are due at 9:00 am. All students (SCPD and non-SCPD) must submit their homeworks via GradeScope (`http://www.gradescope.com`). Students can typeset or scan their homeworks. Make sure that you answer each question on a separate page. That is, one answer per page regardless of the answer length. Students also need to upload their code at `http://snap.stanford.edu/submit`. Put all the code for a single question into a single file and upload it. Please do not put any code in your GradeScope submissions.

Late Day Policy Each student will have a total of *two* free late periods. *One late period expires at the start of each class.* (Homeworks are usually due on Thursdays, which means the first late periods expires on the following Tuesday at 9:00am.) Once these late periods are exhausted, any assignments turned in late will be penalized 50% per late period. However, no assignment will be accepted more than *one* late period after its due date.

Honor Code We strongly encourage students to form study groups. Students may discuss and work on homework problems in groups. However, each student must write down their solutions independently i.e., each student must understand the solution well enough in order to reconstruct it by him/herself. Students should clearly mention the names of all the other students who were part of their discussion group. Using code or solutions obtained from the web (github/google/previous year solutions etc.) is considered an honor code violation. We check all the submissions for plagiarism. We take the honor code very seriously and expect students to do the same.

Your name: _____CS247 Staff _____

Email: _____ **SUID:** _____

Discussion Group: _____

I acknowledge and accept the Honor Code.

*(Signed)*_____

Answer to Question 1.1

Size of largest SCC: 244
Percentage of nodes in largest SCC: 43.4163701068

Answer to Question 1.2

Ingredients most distant from cocoa powder: ['saffron']
Distance: 10

Answer to Question 1.3

Node with highest pagerank:
chicken : 0.0208247291427
node id: 12

Answer to Question 2.1

Percentage reciprocal: 46.7201166181

Answer to Question 2.2

Top 10 countries by in-degree:
'Japan', 'USA', 'France,Monac', 'Germany', 'Spain', 'Italy', 'UK', 'Netherlands', 'China HK SAR', 'Belgium-Lux'

Answer to Question 2.3

Top countries (by export weight):
Thailand 4046.183
Norway 3513.283
China 3059.796
USA 2553.938
Canada 2474.061

Answer to Question 2.4

Country with greatest difference: Morocco