

Question 1.1, Homework 0, CS224W

The number of nodes in the network = 7115

Question 1.2, Homework 0, CS224W

The number of nodes with a self-edge (self-loop) = 0

Question 1.3, Homework 0, CS224W

The number of directed edges in the network = 103689

Question 1.4, Homework 0, CS224W

The number of undirected edges in the network = 100762

Question 1.5, Homework 0, CS224W

The number of reciprocated edges in the network = 2927

Question 1.6, Homework 0, CS224W

The number of nodes of zero out-degree = 1005

Question 1.7, Homework 0, CS224W

The number of nodes of zero out-degree = 4734

Question 1.8, Homework 0, CS224W

The number of nodes with more than 10 outgoing edges = 1612

Question 1.9, Homework 0, CS224W

The number of nodes with fewer than 10 incoming edges = 5165

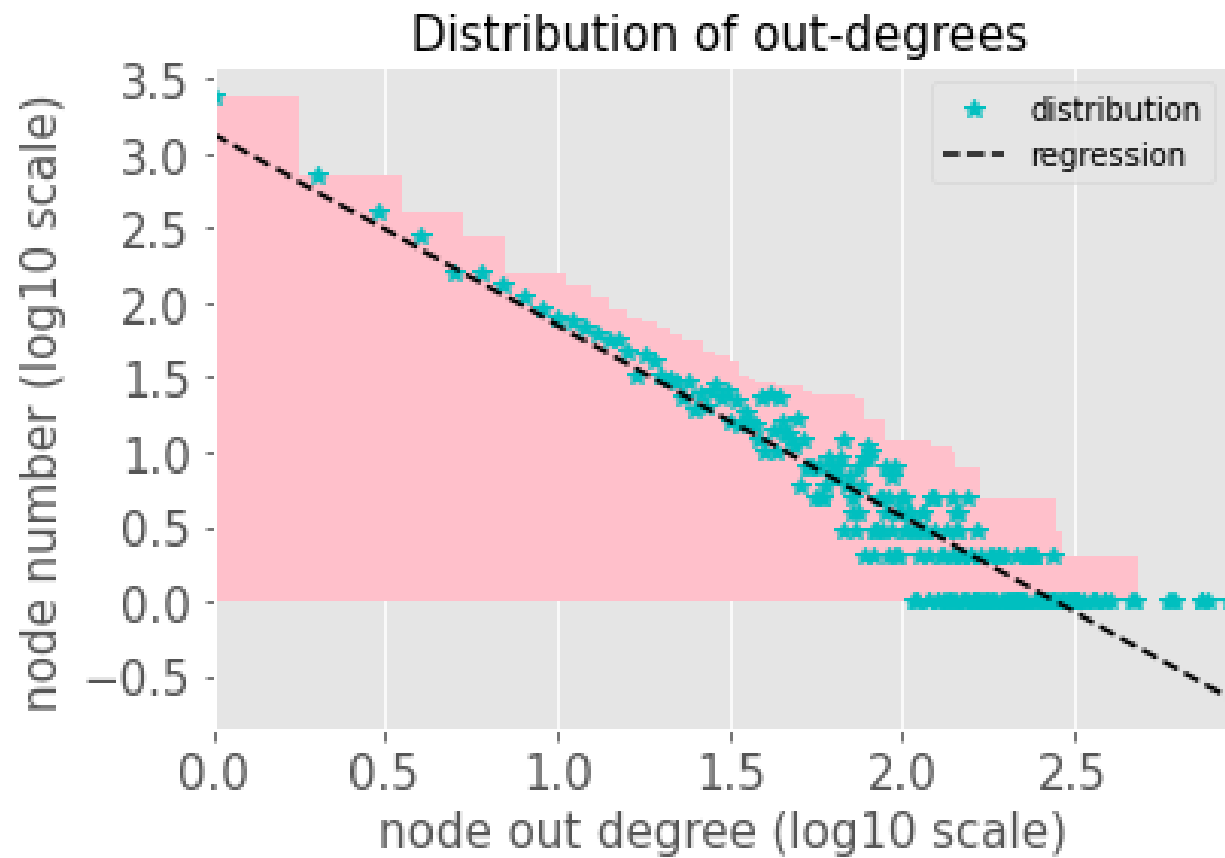


Figure 1: Distribution of out-degrees

Question 2.2, Homework 0, CS224W

$$a = -1.2810647056745657$$

$$b = 3.1324547044999136$$

Question 3.1, Homework 0, CS224W

The number of weakly connected components is: 10143

Question 3.2, Homework 0, CS224W

The number of edges is 322486 and the number of nodes is 131188 in the largest weakly connected component

Question 3.3, Homework 0, CS224W

IDs of the top 3 most central nodes are: 22656, 135152, 992484

Question 3.4, Homework 0, CS224W

IDs of the top 3 hubs are: 359862, 1194415, 892029

IDs of the top 3 authorities are: 571407, 157882, 22656

Information sheet

CS224W: Machine Learning with Graphs

Assignment Submission Fill in and include this information sheet with each of your assignments. This page should be the last page of your submission. Assignments are due at 11:59pm and are always due on a Thursday. All students (SCPD and non-SCPD) must submit their homework via GradeScope (<http://www.gradescope.com>). Students can typeset or scan their homework. Make sure that you answer each (sub-)question on a separate page. That is, one answer per page regardless of the answer length. Students also need to upload their code on Gradescope. Put all the code for a single question into a single file and upload it.

Late Homework Policy Each student will have a total of *two* late periods. *Homework are due on Thursdays at 11:59pm PT and one late period expires on the following Monday at 11:59pm PT.* Only one late period may be used for an assignment. Any homework received after 11:59pm PT on the Monday following the homework due date will receive no credit. Once these late periods are exhausted, any assignments turned in late will receive no credit.

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's 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: _____

Email: _____ **SUID:** _____

Discussion Group: _____

I acknowledge and accept the Honor Code.

(Signed) _____