IC252 Eval 1
Level 1: Paper B

19 March 2019

I declare that the following information is true. Moreover, I promise not to indulge in any form of academic dishonesty during this exam.

Name	
Roll Num	
Attempt no.	
Signature	
TC 1 (2)	
TC 2 (2)	
TC 3 (2)	
TC 4 (2)	
Coding style (2)	
Total (10)	
Evaluator's signature	

1. An internet service provider has several routers for handling network traffic. Each packet comes into a source router and then is forwarded to the destination host. The log file of the ISP for the past 4000 hours is provided in the file `file2.dat`. The file is in the format `src dest src dest...`, where each entry is an IP address. Each pair means that the packet was forwarded from `src` to `dest`. Using the file, answer the following questions.

   Let x be a destination and y be a source. Accept x and y from the user.

   (a) Estimate the probability that destination x was forwarded from source router y.

   (b) What is the probability that a packet comes from source y?

   Hint: The function `numpy.unique()` may be helpful.

Sample output

Part A:
Enter the source router: 10.6.6.4
Enter the destination: 10.8.8.15
The probability that a packet was forwarded to 10.8.8.15 from 10.6.6.4 is xx.yy
Part B:
Enter the source: 10.6.6.9
The probability that a packet comes from router 10.6.6.9 is xx.yy