DATA 468 Homework 3

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Homework Date: April 9, 2025

Submission Date: April 15, 2025 (11:00 PM) (Beijing Time)

Submission Date in Gradescope: April 15, 2025 (8:00 AM) (Tucson Time)

Instructions: Please write or type your solutions clearly and show all relevant steps. Once you are done, please upload your solutions to Gradescope. Ifyou need to scan your solutions, please use a free scanning app like CamScanner instead of sending photographs. Please submit your solutions within the prescribed time, as late submissions will be not considered.

A company has a new website which consists of 5 pages: a *Home Page* which links to all other pages, an *About Us* page, *Contact Us* page and Our Product page which are linked to each other and back to the Home page, and an *Our Staff* page which has no links on it. A prospective customer starts at a random page, and chooses from the available links on the page with equal probability to decide which the next page is. At all future times they repeat this procedure. Thinking of the above process as a Markov chain, and in doing so labeling the pages as 1, 2, 3, 4, 5 according to the order they are listed above, calculate the hitting times f_{12}, f_{13}, f_{23}, $f_{32,}$ $f_{42,}$ f_{34}.