INDE 597
Homework 5
Due date 4/17

Pledged homework: you can use your class notes and any text or online sources, but don’t collaborate with other students in the class. Cite any sources you have used.

1) A mouse is placed in Room 1 of the following maze, and a block of cheese is placed in Room 5. The mouse starts exploring the maze by repeatedly moving to a random adjacent room.

```
+---+---+---+
|   | 1 |   |
+---+---+---+
| 2 | 3 | 4 |
+---+---+---+
|   | 5 | 6 |
+---+---+---+
```

a) Form a transition matrix $M$ for the mouse’s movements.
b) Find a stationary vector for $M$.
c) Does $M$ have a limiting vector?
d) What is the expected number of steps it will take the mouse to reach the cheese?

More questions may be added later