

Math 4741 Quiz 3

Please answer in a loose sheet

Write your ID number at the top of your first page.

Total marks: 15

Time: 15 minutes

1

For the Figures 1 to 4:

Label whether each state is transient or recurrent.

Marks for each figure are given on the right hand side.

-2

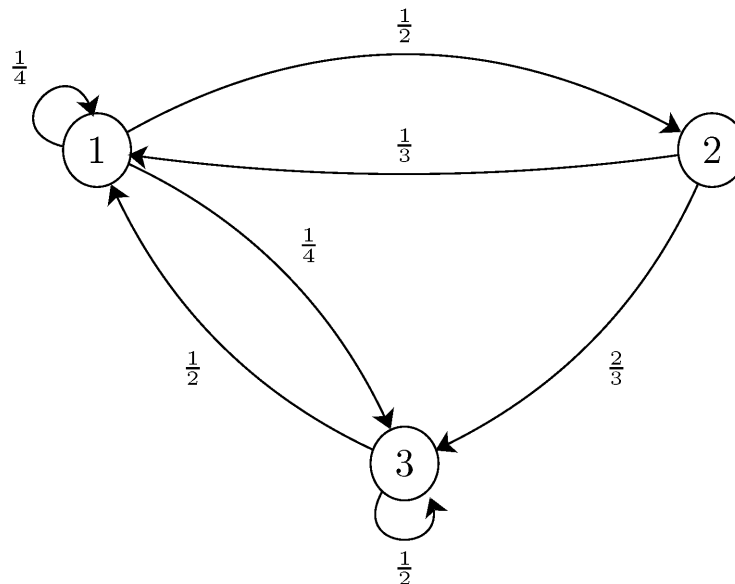


Figure 1: Fig 1

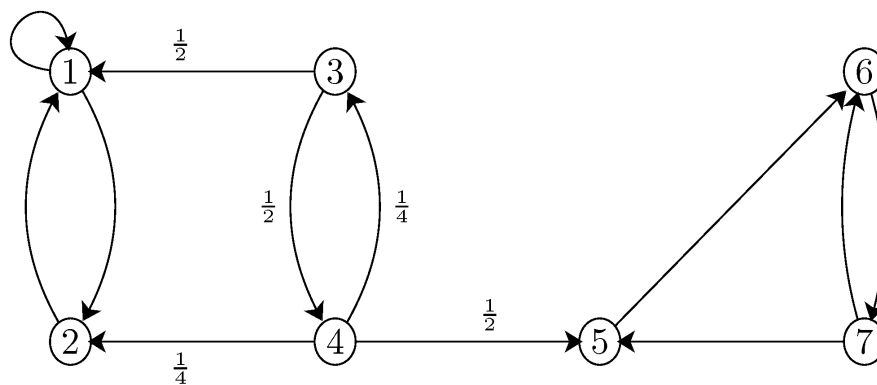


Figure 2: Fig 2

-3

-2

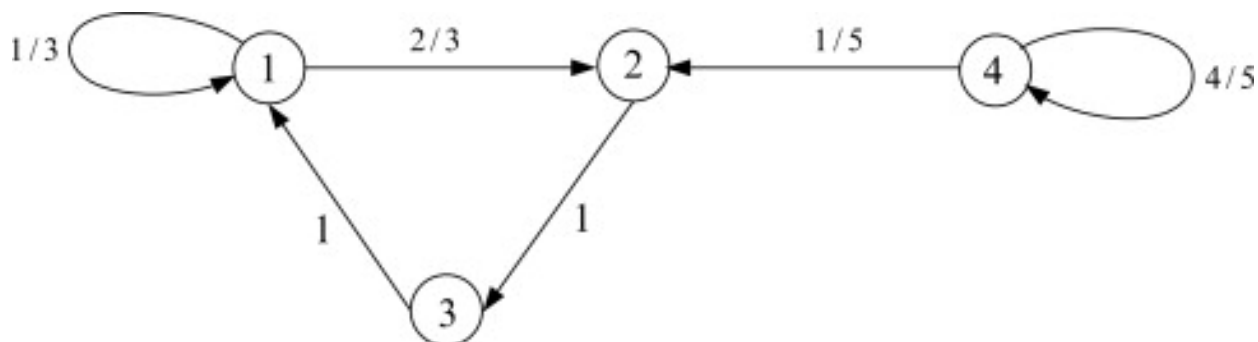


Figure 3: Fig 3

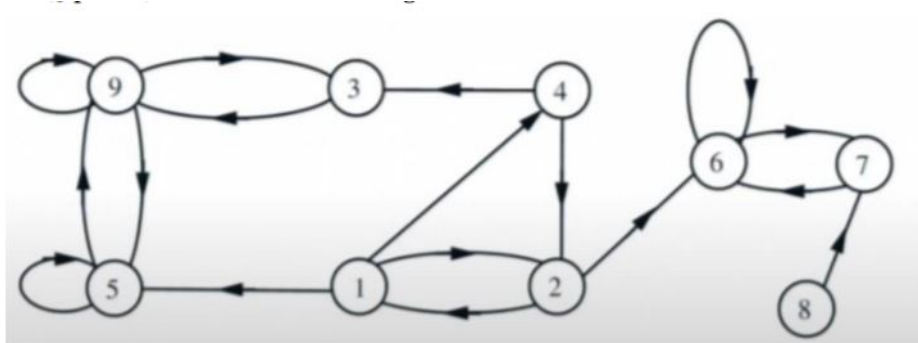


Figure 4: Fig 4

-3

2

Refer to Figure 1 above. The states 1, 2 and 3 refer to Gary's mood which is either cheerful (1), so-so (2), or glum (3).

- Draw the transition matrix. -2
- If Gary was in a cheerful mood yesterday, what is the probability that his mood will not remain the same today? -1.5
- If Gary was in a glum mood yesterday, what is the probability that he will be cheerful today? -1.5