Problem Set 3

Problem 1. For the Bayesian network described in slide 11 of lecture 5, mark the following questions as true or false.

1. $P(f|d) = P(f)$.
2. $P(n|d, f) = P(n|f)$.
3. n and g are independent.
4. t and f are independent.
5. t is independent of d, given g.

Problem 2. Once again referring to the Bayesian shown in slide 11 of lecture 5, compute $P(f|t)$.

Problem 3. Work out the exercise described on slide 27 of lecture 5.

Problem 4. Work out the exercise described on slide 8 of lecture 6.

Problem 5. Work out the exercise described on slide 14 of lecture 6.

Problem 6. For the simple base set depicted in slide 26 of lecture 6, but with the $Alice \rightarrow MCI$ link removed, iterate the Hubs and Authorities algorithm 3 times.