

# COMP30024 Tutorial Problems

Questions based on exercises from Russell and Norvig (3rd edition) have the original question numbers shown in brackets. Many of these questions are designed to provoke discussion in tutorials, rather than having a simple, closed-form answer.

## **Tutorial 11. Robotics**

**11.1** Suppose for some environment, the odds of there being an obstacle present are 1 in 10 and that a range sensor has a false positive rate of 30% and a false negative rate of 30%.

- a. What is the probability that an obstacle is present if the detector returns three positives in a row?
- b. What is the probability of no obstacle if the detector returns a positive followed by a negative?