

PART C — ($1 \times 15 = 15$ marks)

16. (a) Consider the problem of changing a flat tire. The goal is to have a good spare tire properly mounted onto the car's axle, where the initial state has a flat tire on the axle and a good spare tire in the trunk. To keep it simple, our version of the problem is an abstract one, with no sticky lug nuts or other complications. There are just four actions: removing the spare from the trunk, removing the flat tire from the axle, putting the spare on the axle and leaving the car unattended overnight. Write the STRIPS and find out the solution.

Or

- (b) Construct a Bayesian network and define the necessary CPTs for the given scenario. We have a bag of three biased coins a, b, and c with probabilities of coming up heads of 20%, 60%, and 80%, respectively. One coin is drawn randomly from the bag (with equal likelihood of drawing each of the three coins) and then the coin is flipped three times to generate the outcomes X_1 , X_2 and X_3 .
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