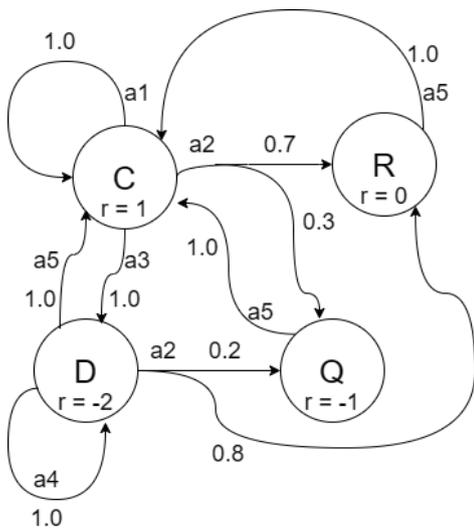


Full name:

Important: Points are allocated only if you first write the required formulas for your specific case and then replace them with numbers.

Question 1: A Computer Science student from Alexandru Ioan Cuza University is working on a practical project and this process is modelled by the Markov Decision Process below. The MDP has associated four states: R (read project requirements), C (code), Q (ask questions), D (debug). The rewards received in each state are marked with r . The actions available are: a1 ('keep coding'), a2 ('ask for clarifications'), a3 ('start debugging'), a4 ('keep debugging') and a5 ('start coding'). Compute the discounted utility for the following sequence of states: C, R, C, D, Q, assuming that the discount factor is 0.5.

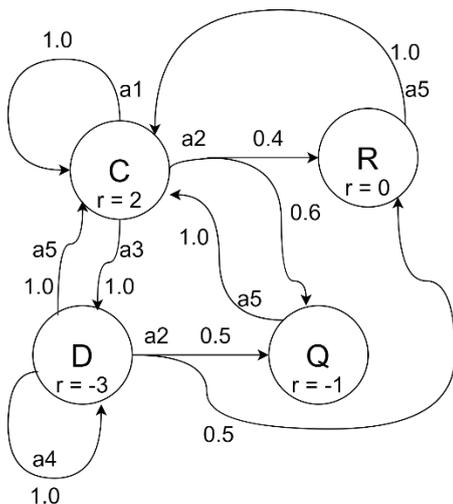


Question 2: For the above exercise, assuming that initial utilities are: 1 for D, 2 for C, 1 for R and 2 for Q, and that the discount factor is 0.5, apply the Value Iteration algorithm to compute step by step the utilities from the first iteration.

Full name:

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Question 1: A Computer Science student from Alexandru Ioan Cuza University is working on a practical project and this process is modelled by the Markov Decision Process below. The MDP has associated four states: R (read project requirements), C (code), Q (ask questions), D (debug). The rewards received in each state are marked with r . The actions available are: a1 ('keep coding'), a2 ('ask for clarifications'), a3 ('start debugging'), a4 ('keep debugging') and a5 ('start coding'). Compute the discounted utility for the following sequence of states: C, D, Q, C, R assuming that the discount factor is 0.3.



Question 2: For the above exercise, assuming that initial utilities are: 2 for D, 1 for C, -1 for R and 1 for Q, and that the discount factor is 0.3, apply the Value Iteration algorithm to compute step by step the utilities from the first iteration.