Artificial intelligence

Assignment No 4

Deadline Sunday 14th Jan 11:59PM

Consider Volcano crossing problem discussed in the class. Consider an instance of the problem using different grid size, rewards of end states etc. You are free to define the problem, its states, actions etc. Solve the problem using the following algorithms.

- Model free Monte Carlo
- SARSA
- Q-Learning

1. Run the algorithms using different number of episodes of uniformly random policy and show Q-values and average utility.
2. Use different slip probabilities ranging from 0.0 to 0.3 and show your results on different algorithms.
3. Use epsilon greedy algorithms to change generate episode from uniformly random policy for exploration as well as policy that chooses the best action.
4. Write a 2-3 page report and explain your code and results in it.

Develop a GUI based user friendly application from which user to choose appropriate options e.g slip probability, epsilon value, no of episodes etc.

It's a team assignment with a group of a maximum of 2 students is allowed.