Yap Dian Hao

A0184679H

CS3243 Tutorial 4

T11

Q3.

A picture containing wall

Description automatically generated

1. Since the attacker is able to observe the defender’s actions, the attacker can attack any target is not guarded by the defender. Therefore, the attacker will always receive a payoff of one, while the defender will receive a payoff of -1.
2. Yes, the defender can do better by randomizing. If the defender chose his targets to defend by randomizing, the probability of the attacker picking a node that is not guarded is 1 – 2/3 = 1/3. Therefore, the payoff for the attacker is decreased to 1/3, while the payoff for the defender is increased from -1 to -1/3.