

# COMP3121 Homework 4

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## 1 Question 1

- Two participants (players): Country A and B.
- Strategies: A can choose the dam or fishing. B can also choose the dam or fishing.
- Payoffs: If A chooses dam and B chooses dam too, they both get payoff of 5. If A chooses fish and B chooses dam, A gets payoff of 1 and B gets payoff of 9. On the other way, if B chooses fish and A chooses dam, B gets payoff of 1 and A gets payoff of 9. If they both choose fish, they can get payoff of 3 each.
- The matrix is as follows.

	B dam	B fish
A dam	5, 5	9, 1
A fish	1, 9	3, 3

## 2 Question 2

- Two participants (players): A, B, C.
- Strategies: A, B, and C can all choose two actions, say "in" or "out".
- Payoffs: Whichever agent ends up in the minority (choosing a different action from the other two) wins. The winner gets payoff of 1, the others get 0.
- The matrix is as follows.

	C in		C out	
	B in	B out	B in	B out
A in	0, 0, 0	0, 1, 0	0, 0, 1	1, 0, 0
A out	1, 0, 0	0, 0, 1	0, 1, 0	0, 0, 0

Figure 1: A, B, C strategy matrix