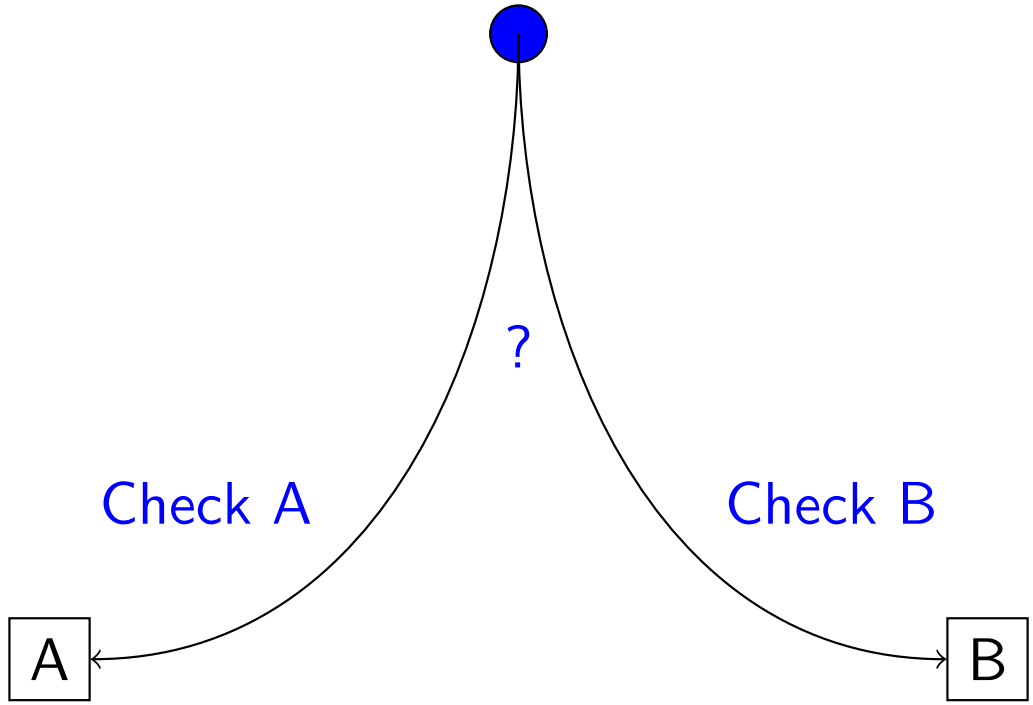
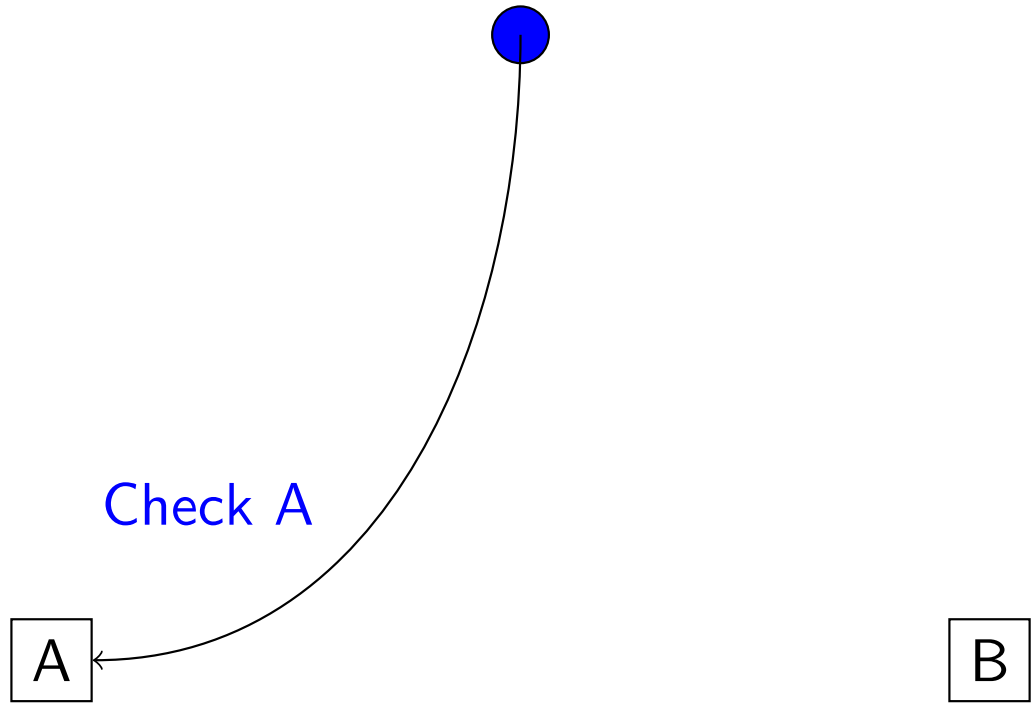
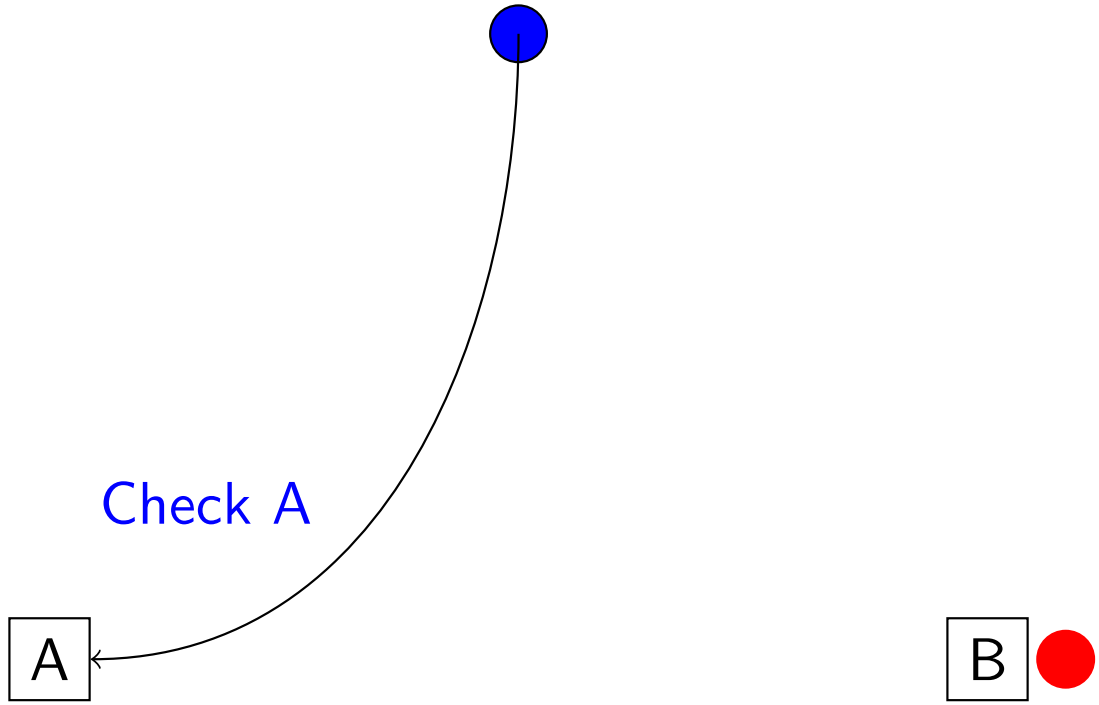
Best Responses

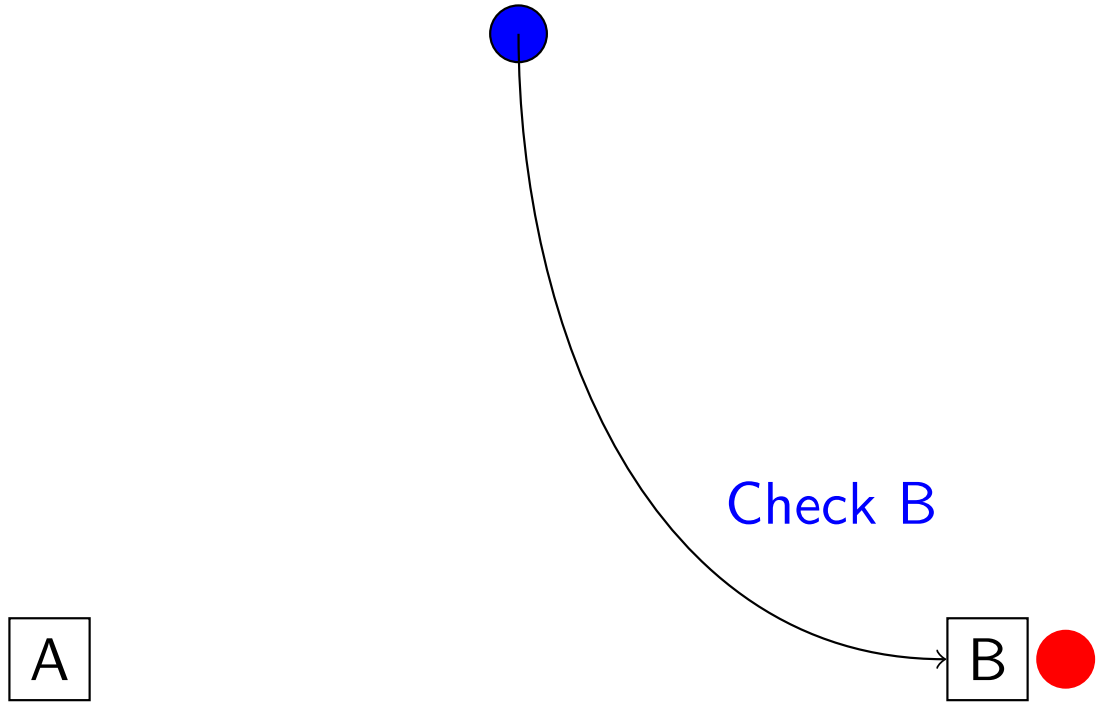
Game Theory

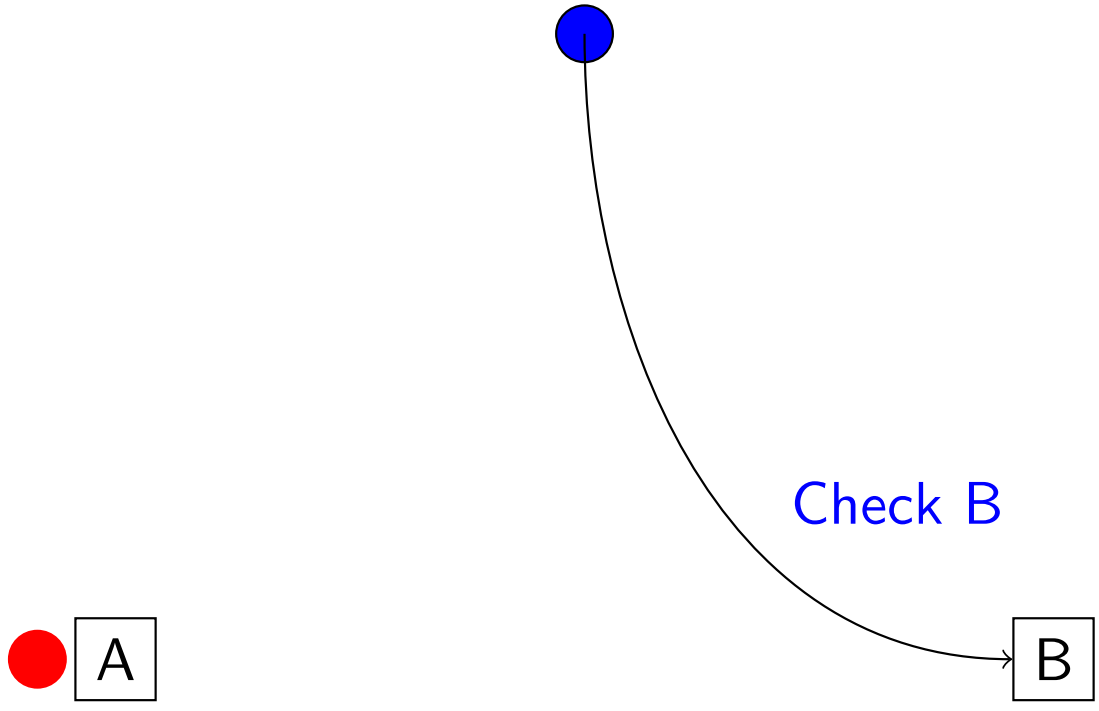
Vincent Knight

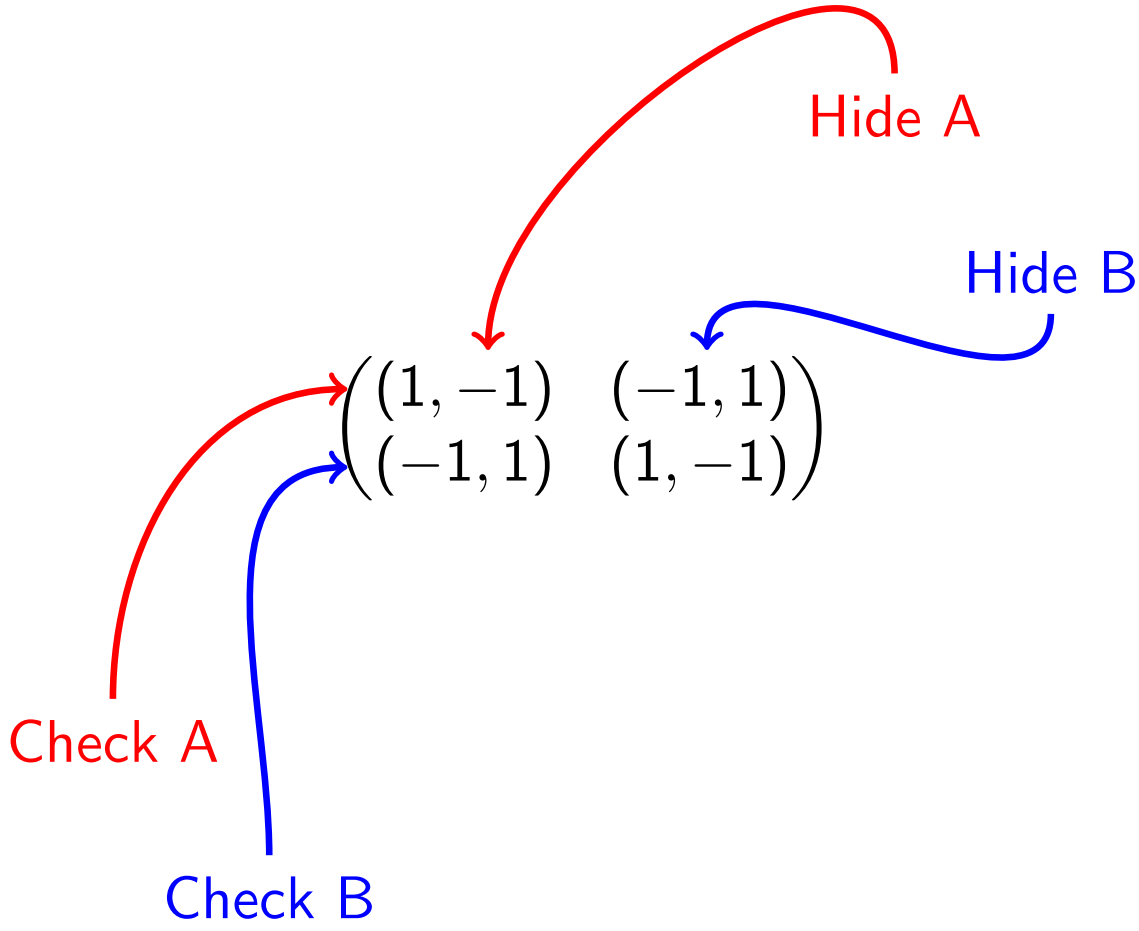

?
Check A
Check B
A
B


Check A
A
B


Check A
A
B


Check B
A
B


Check B
A
B


Hide A
Hide B
$\begin{pmatrix} (1,-1) & (-1,1) \\ (-1,1) & (1,-1) \end{pmatrix}$
Check A
Check B

$$UD_i = \{s \in S_i \mid \text{s is not strictly dominated}\}$$

$$B_i = \{s \in S_i \mid \exists\, \sigma \in \Delta S_{-i} \text{ such that } s \text{ is a best response to } \sigma\}$$

In our hide and seek game:

$$UD_i = \{A, B\} \; \forall \; i \in \{1, 2\}$$

and

$$B_i = \{A, B\} \; \forall \; i \in \{1, 2\}$$

$$UD_i = \{s \in S_i \mid \text{s is not strictly dominated}\}$$

$$B_i = \{s \in S_i \mid \exists\, \sigma \in \Delta S_{-i} \text{ such that } s \text{ is a best response to } \sigma\}$$

In our hide and seek game:

$$UD_i = \{A, B\} \;\forall\; i \in \{1, 2\}$$

and

$$B_i = \{A, B\} \;\forall\; i \in \{1, 2\}$$

Theorem:

In a 2 player normal form game $B_i = UD_i$ for all $i \in \{1, 2\}$.