## Infinitely Repeated Games Game Theory

Vincent Knight

$$(2,2)$$
  $(0,3)$   $(3,0)$   $(1,1)$ 

$$\begin{pmatrix} (2,2) & (0,3) \\ (3,0) & (1,1) \end{pmatrix}$$

- $ightharpoonup s_C$ : cooperate at every stage
- ► *s*<sub>D</sub>: defect at every stage

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ect at every stage 
$$u_1(s_C,s_C) = \sum_{i=1}^{\infty} 2 > \infty$$

$$\begin{pmatrix} (2,2) & (0,3) \\ (3,0) & (1,1) \end{pmatrix}$$

- ▶ s<sub>C</sub>: cooperate at every stage

▶ 
$$s_D$$
: defect at every stage  $u_1(s_C,s_C)=\sum_{i=1}^\infty \delta^i 2<\infty ext{ if } |\delta|<1$ 

$$\begin{pmatrix} (2,2) & (0,3) \\ (3,0) & (1,1) \end{pmatrix}$$

- ▶ *s<sub>C</sub>*: cooperate at every stage
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$$u_1(s_C, s_C) = \sum_{i=1}^{\infty} \delta^i 2 < \infty \text{ if } |\delta| < 1$$

Possible interpretation of  $\delta$ : probability of game ending at any stage.