Instructions 1

You may use any course materials, websites, Netlogo models, calculators, etc. for this test. Just don't ask another person for the an
share your answers with other people.

Question 2

Bob and Alice play the Prisoner's Dilemma for 10 rounds. Bob starts by defecting and Alice by cooperating. After that, they each pla
("cooperate" or "defect") that their partner played on the previous round. What is Alice's total score at the end of the 10 rounds?   (U
payoff matrix described in the "game version" slide in the lecture.)

- A. 0
- B. 10
- C. 20
- D. 25
- E. 50

Question 3

Bob and Alice play the Prisoner's Dilemma for 10 rounds. Bob plays the TIT FOR TAT strategy (starting with "cooperate").   Alice pla
"cooperate" on the first five rounds and "defect" on the last five rounds. What is Alice's total score at the end of the 10 rounds? (Use
matrix described in the "game version" slide in the lecture.)

- A. 15
- B. 18
- C. 20
- D. 24
- E. 28

Question 4

Suppose that each of the strategies listed below play the Prisoner's dilemma with TIT FOR TAT for eight rounds.   Which of the strate
will have a total score higher than TIT FOR TAT's total score after the eight rounds?   (**Notice** -- **EIGHT** rounds, not ten as in previous

- A. Always defect
- B. Always cooperate
- C. Unforgiving (cooperate until partner defects, then always defect)
- D. Anti-TIT-FOR-TAT (start out by defecting, then do the opposite of what partner did on previous round)

Question 5

As defined in the lectures, which of the following is **NOT** an assumption of traditional economics?

- A. An agent is perfectly rational
- B. An agent can do deductive reasoning
- C. Each agent knows what the other agents' strategies are
- D. Each agent makes its decisions based on its desire to maximize utility for the entire population of agents
- E. Each agent desires to maximize its own utility

Question 6

As defined in the lectures, which of the following is **NOT** an assumption of "complexity economics"?

- A. Agents are self-interested

- B. Agents have limited knowledge of one another's strategies

- C. Agents are adaptive

- D. Agents perform deductive reasoning

- E. Populations of agents rarely or never reach equilibria

Question 7

Which of the following would be an optimal result for the El Farol problem (i.e., maximum number of people are happy)?

- A. Every Thursday night, exactly 59 people attend.

- B. Every Thursday night, exactly 60 people attend.

- C. Every Thursday night, exactly 61 people attend.

- D. Thursday nights oscillate between 61 and 59 people attending.

Question 8

In the El Farol problem, suppose there are 100 people total, and the overcrowding threshold is 60. Suppose each person has exactly
strategy, which says "predict attendance will be the same as the previous Thursday." Suppose that last Thursday, 50 people attended
people will attend this Thursday?

- A. 0

- B. 50

- C. 60

- D. 70

- E. 100

Question 9

In the El Farol problem, suppose there are 100 people total, and the overcrowding threshold is 60. Suppose each person has exactly
strategy.   50 people have the strategy "predict attendance will be the same as the previous Thursday", and 50 people have the strateg
attendance will be [100 – attendance-on-previous-Thursday]. Suppose that last Thursday, 61 people attended. How many people wi
Thursday?

- A. 50

- B. 60

- C. 70

- D. 100

- E. 0