Homework #2
CSI 2350

due: January 23, 2019

Provide a truth table to support your answers. All problems are based on the Knights and Knaves discussed in class.

1. Show that anyone can say “I am a knight.”

2. There are three people, A, B and C. Exactly one of them is a knave. A says “B is the knave.” B says, “C is the knave.” Who is the knave?

3. There are three people, A, B and C. You know that A and B are opposites (if A is a knight, B is a knave and vice versa). If C makes the statement, “I am the same as A,” which of A and B is the knight?

4. There are two people, A, and B. A says, “If I am a knight, then B is a knight.” What are A and B?

5. There are three people, A, B and C. Assume exactly one person is a knave. A says, “B is the knave.” B says, “A is the knave.” C says, “I am the same as A.” Who is the knave?

6. There are three people, A,B and C. A says, “Either B or C is a knave, but not both.” B says, “I am the same as C.” Can C be a knave?

7. There are three people, A,B and C. A says, “Either B or C is a knave, or maybe both.” B says, “I am the same as C.” Can C be a knave?

8. There are three people, A,B, and C. A says “B and C are not the same.” B says, “At least one of us is a knight.” C says, “B is a knave.” Determine if A, B and C are knights or knaves.

9. There are three people, A,B, and C. A says “Exactly one of us is a knave.” B says, “A is not a knave.” C says, “I am the same as A.” Determine if A, B and C are knights or knaves.

10. There are three people, A,B, and C. A says “Exactly one of us is a knave.” B says, “A is not a knave.” C says, “I am NOT the same as A.” What do we know for certain?