1. Determine whether the statements given below are true or false. Explain your answer.
   A. \( \forall \text{ circles } x, \exists \text{ figures } y, x \text{ is adjacent to } y. \)
   B. \( \exists \text{ circles } x, \forall \text{ figures } y, x \text{ is adjacent to } y. \)
   C. \( \exists \text{ figures } y, \forall \text{ circles } x, x \text{ is adjacent to } y. \)
   D. \( \forall x, \text{ Square}(x) \rightarrow \text{ White}(x) \land \text{ Above}(x, d). \)
   E. \( \exists x, \text{ Square}(x) \rightarrow \text{ White}(x) \land \text{ Above}(x, d). \)
   F. \( \forall x, \text{ Square}(x) \rightarrow \text{ White}(x) \lor \text{ Below}(x, d). \)

2. Write the negation of both A and D.

Answers:

1. A. True. c is adjacent to b and e is adjacent to f.
   B. False. No one circle is adjacent to all of the other figures.
   C. False. There is no one figure adjacent to all of the circles.
   D. False. e is not white nor is it above d.
   E. True. c is a white square above d.
   F. True. c is white and e is below d.

2. \( \exists \text{ circles } x, \forall \text{ figures } y, x \text{ is not adjacent to } y. \)
   \( \exists x, \text{ Square}(x) \land (\sim \text{ White}(x) \lor \sim \text{ Above}(x, d)). \)