1. Consider the following statement:

   If m and n are odd integers, then mn is an odd integer.

   (a) Express the statement using logical notation.

   (b) This statement can be proven using a direct proof. Write a detailed proof *structure* for the statement. **Don't write a complete proof** — for now, focus on the proof structure only and leave out *all* of the actual "content".

   (c) Now, complete the proof of the statement.

2. Consider the following statement:

   If m and n are integers with mn odd, then m and n are odd.

   (a) Express the statement using logical notation.

   (b) This statement can be proven using an indirect proof. Write a detailed proof *structure* for the statement. **Don't write a complete proof** — for now, focus on the proof structure only and leave out *all* of the actual "content".

   (c) Now, complete the proof of the statement.