

## 2025: Problem Set 2 solution

- ❖ **Q1:** Condition 1 is reachable. Condition 2 is not reachable.

queries: 
 $E \Diamond (\text{sys1.B and sys2.F and sys1.x}=1 \text{ and sys1.y}=1)$  ●  
 $E \Diamond (\text{sys1.B and sys2.G and sys1.x}=1 \text{ and sys1.y}=1)$  ●

- ❖ **Q2:** 3 jumps to reach condition 1

- ❖ jump 1:  
**sys2 jumps  $F \rightarrow G$**   
 (sys1 jumps  $A \rightarrow A$ )
- ❖ jump 2:  
**sys2 does not jump**  
 (sys1 jumps  $A \rightarrow B$ )
- ❖ jump 3:  
**sys2 jumps  $G \rightarrow F$**   
 (sys1 jumps  $B \rightarrow B$ )

If jump3 is drawn using rectangular clock regions as defined in class, instead of the diagonal line reported by UPPAAL, that is also acceptable as an answer

