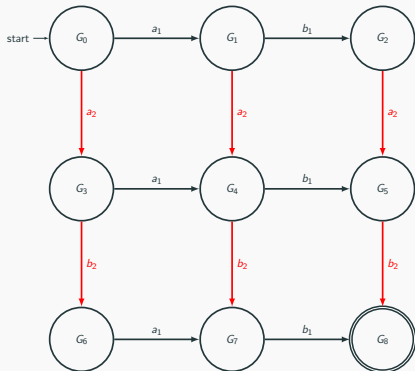


Example 2

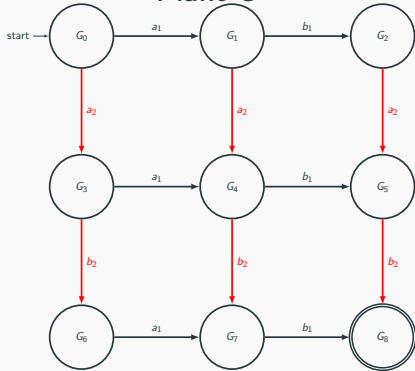


- Events a_1, b_1 are controllable
- Events a_2, b_2 are uncontrollable
- G_0 is the initial state
- G_8 is the marked state

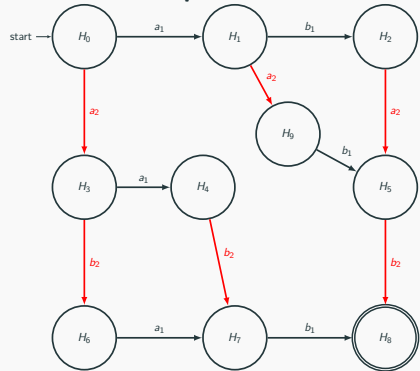
Same Requirement: a_1 precedes a_2 if and only if b_1 precedes b_2

Example 2 - Plant and Requirement

Plant G

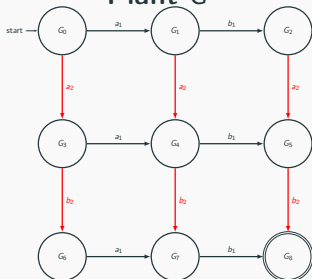


Full Requirement H

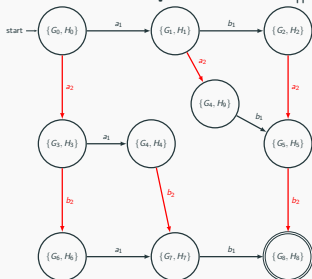


Example 2 - Controller Synthesis

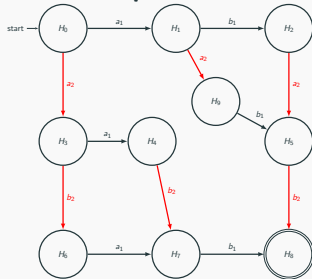
Plant G



Tentative Supervisor $G \parallel H$



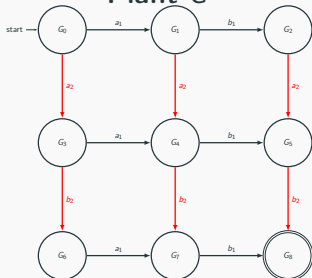
Full Requirement H



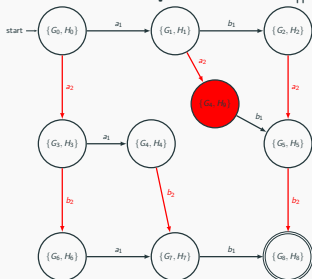
- Any problems?

Example 2 - Controller Synthesis

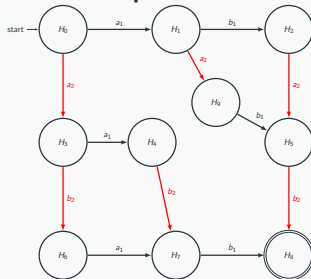
Plant G



Tentative Supervisor $G \parallel H$

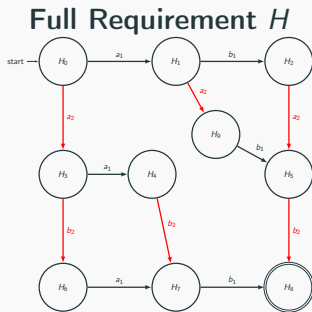
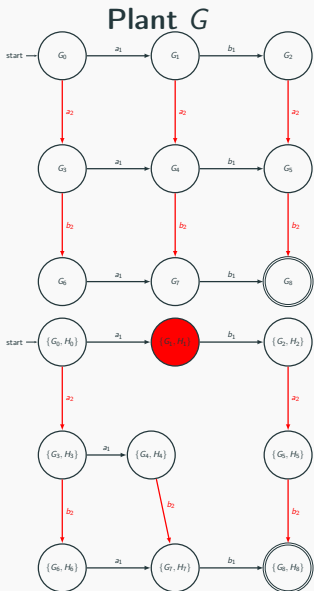


Full Requirement H



- $\{G_4, H_9\}$ is uncontrollable

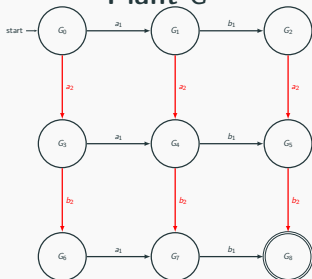
Example 2 - Controller Synthesis



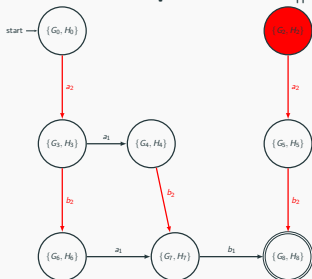
- $\{G_1, H_1\}$ is uncontrollable

Example 2 - Controller Synthesis

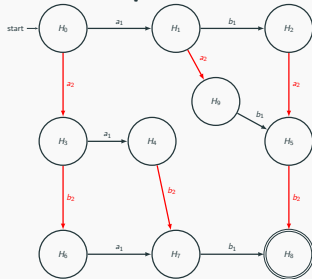
Plant G



Tentative Supervisor $G \parallel H$



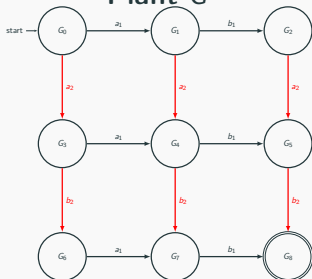
Full Requirement H



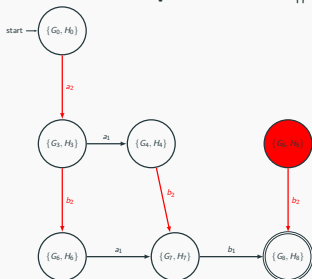
- $\{G_2, H_2\}$ is non-accessible

Example 2 - Controller Synthesis

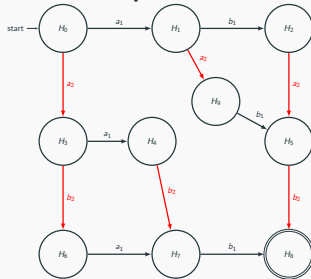
Plant G



Tentative Supervisor $G \parallel H$



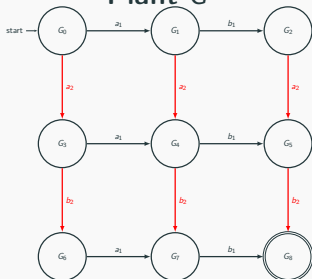
Full Requirement H



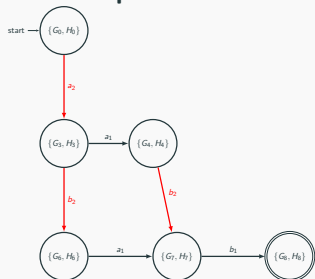
- $\{G_5, H_5\}$ is not accessible

Example 2 - Controller Synthesis

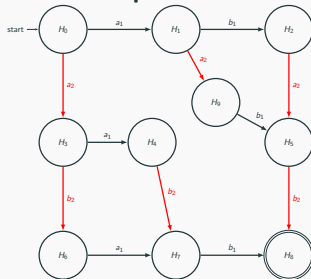
Plant G



Final Supervisor S



Full Requirement H



Control Policy:

- At the beginning S disables a_1
- When the **plant** G is in state G_4 , S disables b_1 .