\[ M = (\Sigma, S, \delta, q_0, F) \]

\[ \delta: S \times \Sigma \rightarrow S \]

\[ M \text{ accepts a LANGUAGE } L(M) \]

of strings over \( \Sigma \) that cause \( M \) to go from a state \( q \) to a state \( q' \) in \( F \).

\[ (2i + 1) \mod 2 \]

Start

Input alphabet

Start state

\[ i \rightarrow (2i + 1) \mod 3 \]

Multiple of 3 in binary \( C_1 \times C_2 \).
A language $L$ is **regular** if it is accepted by a FSM.

Then $Y_1 \cap Y_2$ are regular, then $L_1 \cap L_2$ is regular.

Then $Y_1 \cup Y_2$ are regular then $L_1 \cup L_2$ is regular.

Then $Y_1 \cdot Y_2$ is regular then $L_1 \cdot L_2$ is regular.