Latch (Level-Sensitive) Timing Diagrams

The \( Q \) (and \( \overline{Q} \)) output will change if either of the \( \overline{R} \) or \( S \) input signals change.

The \( Q \) (and \( \overline{Q} \)) output will change if either of the \( R \) or \( S \) input signals change when the \( E \) input signal is high (or becomes high.)

The \( Q \) output will change to match the \( D \) input signal any time that the \( E \) input signal is high.
Flip-Flop (Edge-Sensitive) Timing Diagrams

The $Q$ signal will be set to match that of the $D$ signal whenever a falling edge on $clk$ occurs. (The only time that the $Q$ output can change as a result of a falling edge on the $clk$ signal line.)