

Answer all questions completely. Put a box around the final solution. Put your name on it. Show your work.

By hand:

- Assuming the input waveforms go into an active low input S-R latch shown in Figure 1, and that Q starts off LOW, give the output waveform for Q.

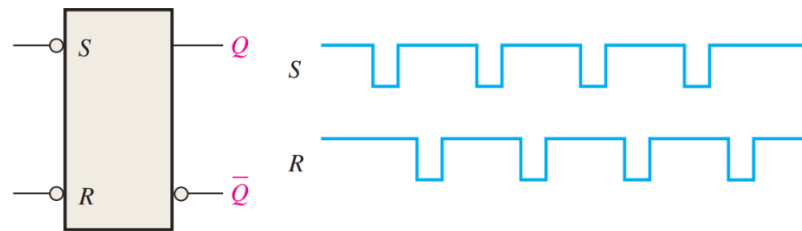
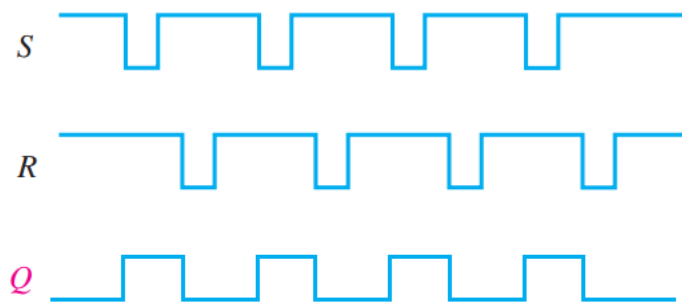


Figure 1

The output waveform will look like the following:



- Redo problem 1 with the input waveforms shown in Figure 2.

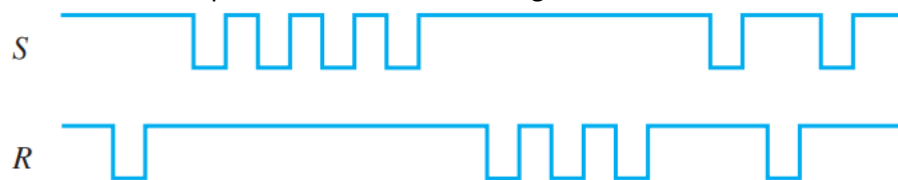
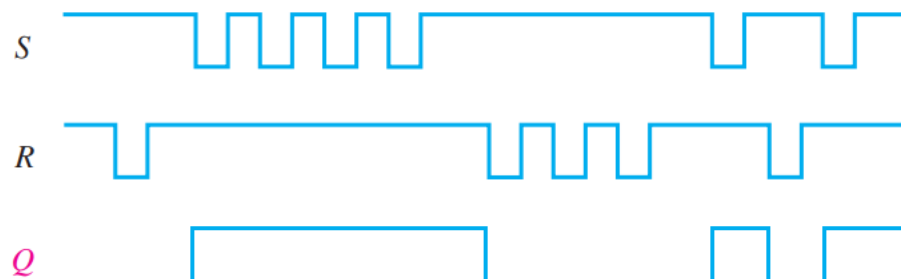


Figure 2

The output waveform will look like the following:



3. Given the waveform in Figure 3 into a gated D Latch, give the output waveform for Q assuming that Q is initially LOW.

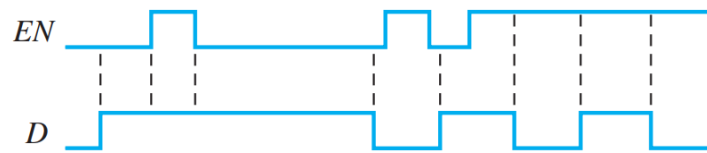
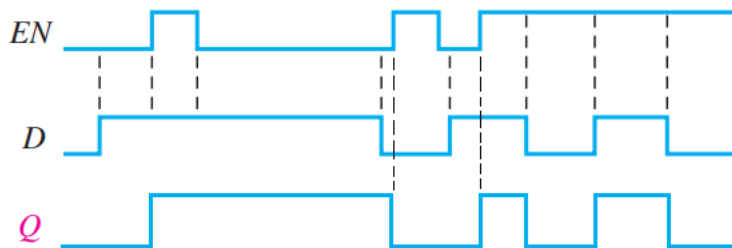


Figure 3

The output waveform will look like the following:



4. Give the output waveform for Q if the inputs in Figure 4 are fed into a rising edge triggered J-K Flip-Flop assuming that Q is initially LOW.

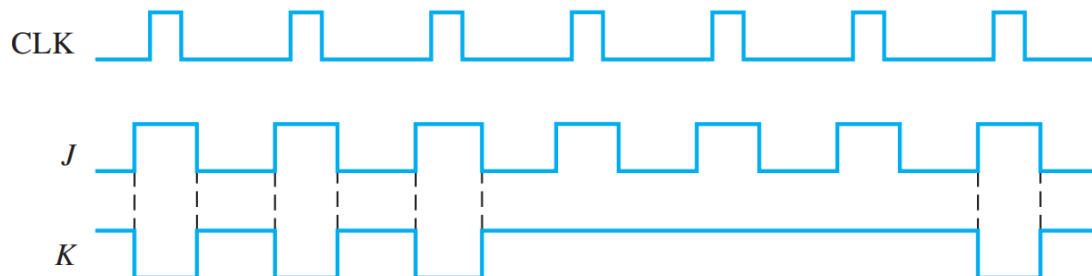
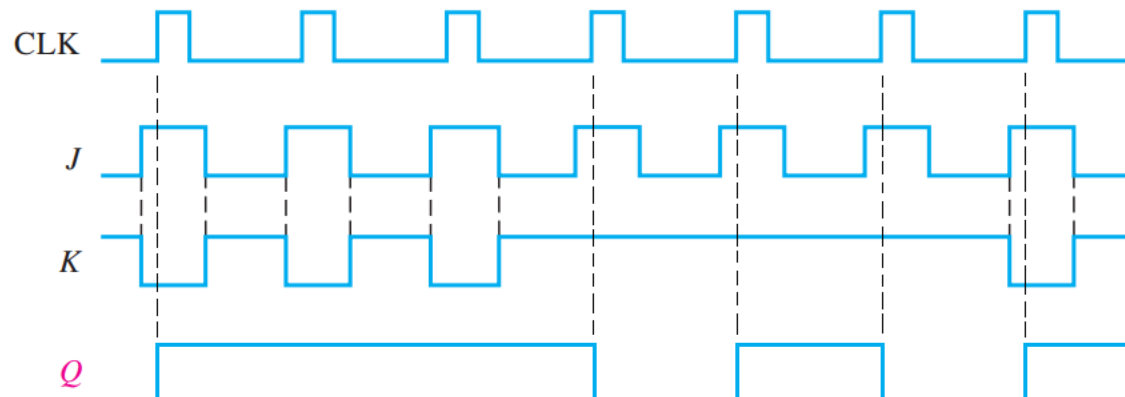


Figure 4

The output waveform will look like the following:



5. Give the output waveform for Q if the inputs in Figure 5 are fed into a falling edge triggered J-K Flip-Flop assuming that Q is initially LOW.

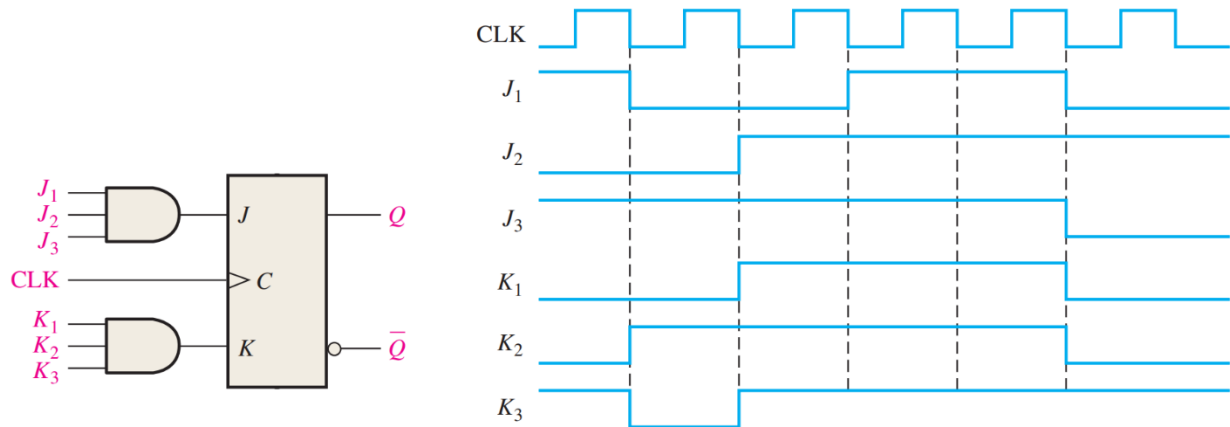


Figure 5

The output waveform will look like the following where J and K are the three signals ANDed together:

