-		
	П	П

The byte in this circuit's shift register is used to turn LEDs on and off. It can also be used to represent many other types of data in binary. Explain how a number is written in binary, then write the number nine using ones and zeros.

5.

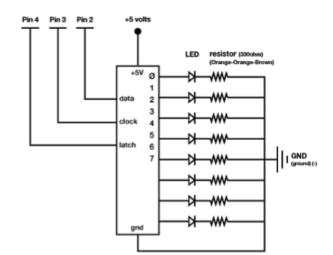
While shifting bits in and out of your chip you can move them so you drop either the MSB, or the LSB. Assuming you drop the LSB and are adding a 1 to the byte above, what is the resulting byte?

Does your shift register light up all the LEDs in a pattern? Great.

Circuit:

2.

Explain why the shift register needs the clock pin as part of how it operates.



3.

Fill in the diagram below if you were trying to shift in the following bits for data: 11100110

Latch: Clock: ______C

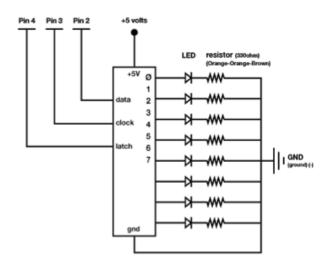
Data:

4.

On the schematic to the right label the most significant bit's pin with MSB and the least significant bit's pin with LSB.



Circuit:



7.

This shift register and LED combination is a powerful display or interface circuit. Explain a sensor or two you might attach to this circuit and what the LEDs attached to the shift register would signify. Example: connect a mic and each LED would represent a different musical note heard by the mic.

Α	Litt	le H	listo	rv

ľ	1	_

What was one of the first known uses of the shift register?