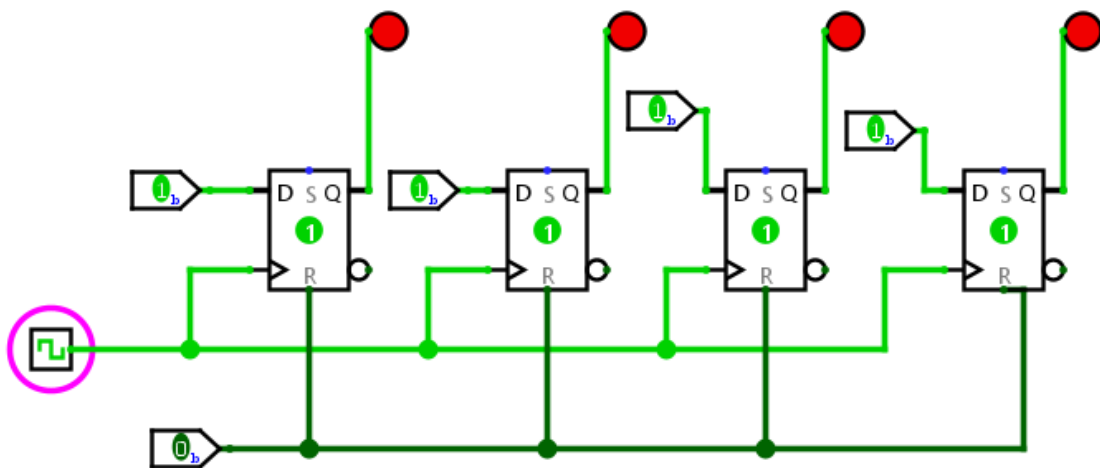


Lab 03

Exercise 1:

| Ox | Input Binary | Output Binary |
|----|--------------|---------------|
| 0 | 0000 | 0000 |
| 1 | 0001 | 0001 |
| 2 | 0010 | 0010 |
| 3 | 0011 | 0011 |
| 5 | 0101 | 0101 |
| A | 1010 | 1010 |
| B | 1011 | 1011 |
| C | 1100 | 1100 |
| D | 1101 | 1101 |
| E | 1110 | 1110 |
| F | 1111 | 1111 |



Exercise 2:

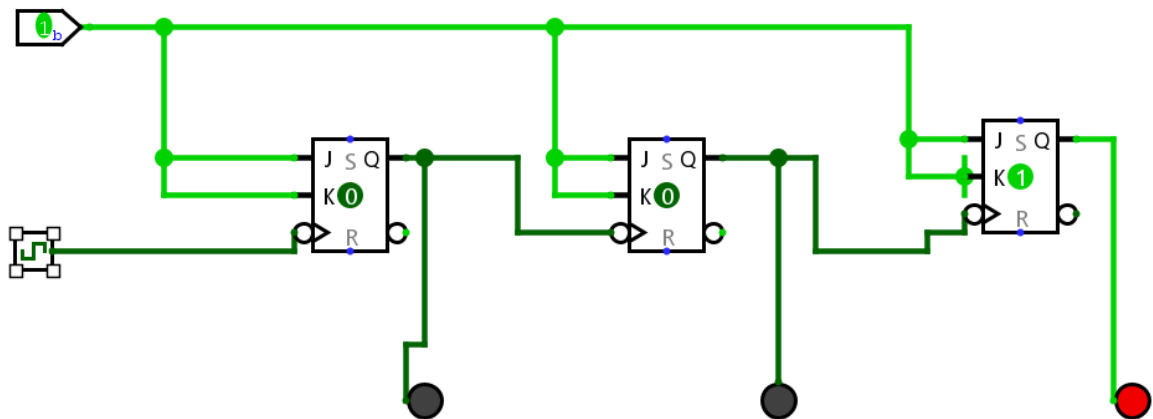
Name one crucial role (hardware) counters play in modern computing architectures?

Hardware counters are set of counters.

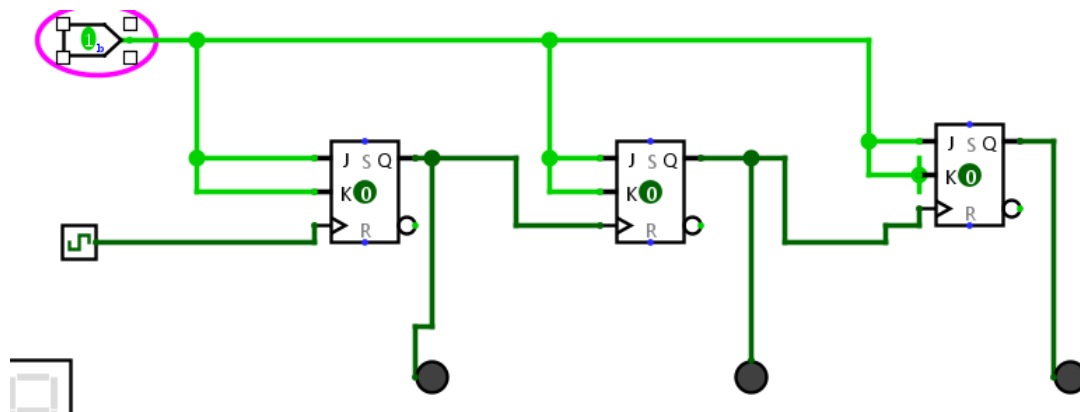
Describe in a few sentences how a ripple counter works. How does the “ripple” occur ?

Ripple is a special type of asynchronous counter to make the clock pulse ripples through the circuit

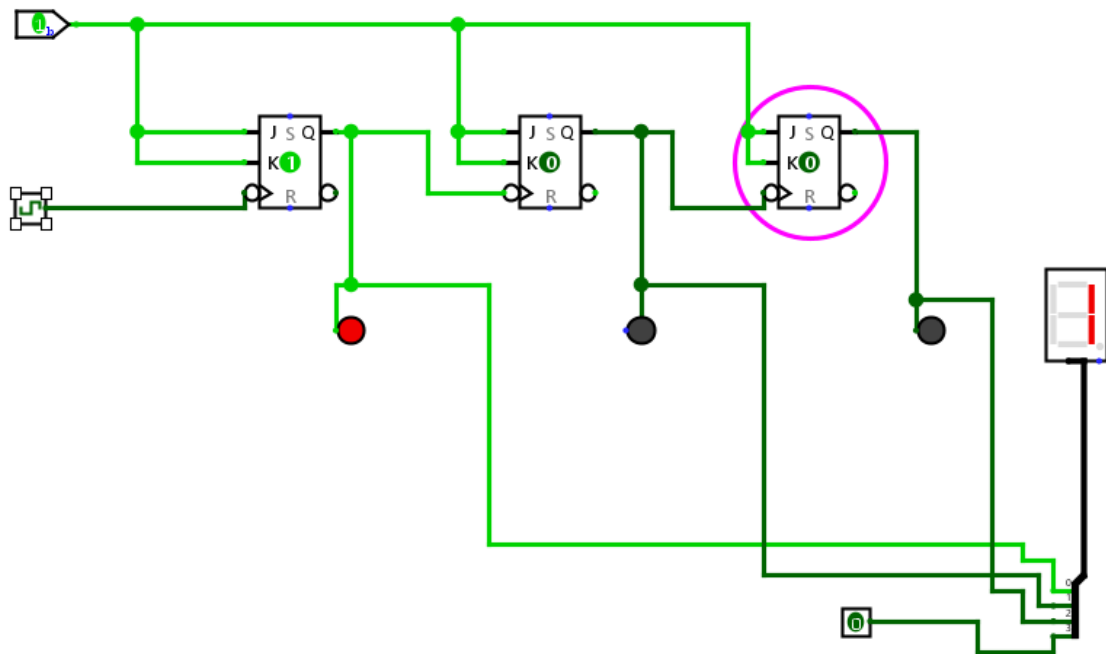
Exercise 3:



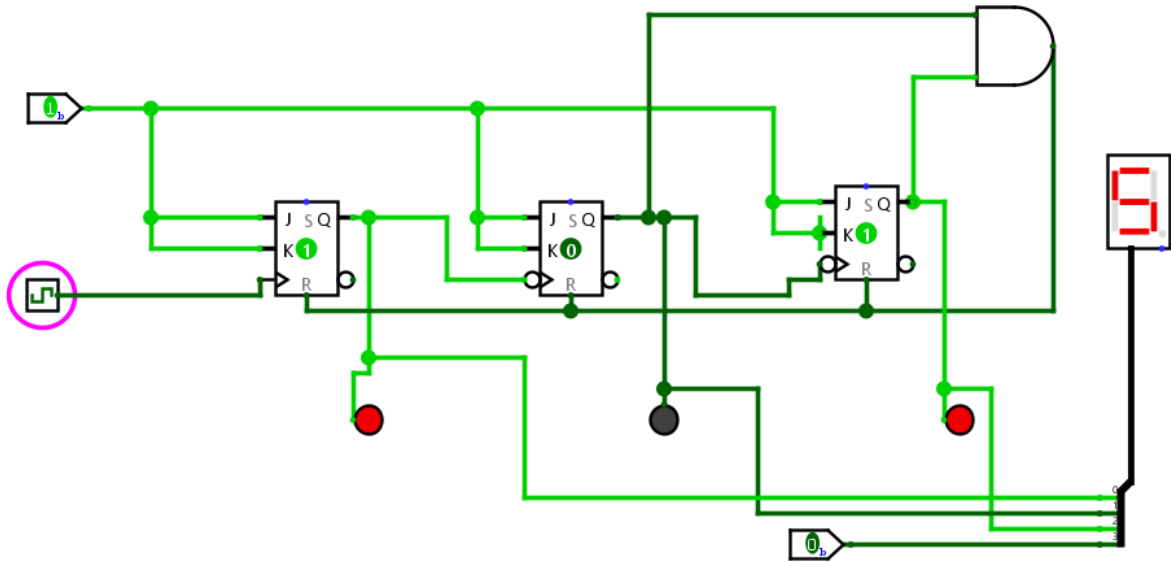
Exercise 4:



Exercise 5:



Exercise 6:



Exercise 7 + 8:

