Design a bistable multivibrator circuit using two transistors

Welcome to the second task in semiconductor designing. To be here means you are interested in learning about this vast and interconnected field and have gained knowledge by preforming previous tasks. This task is to help us understand your understanding and learning capabilities. Please remember throughout the process that if you face any issues during the process, feel free to approach us at any time through the discord server.

Task description:

Design a bistable multivibrator circuit using two transistors.

prerequisite : Complete task-1 (Design your own obstacle avoidance sensor with semiconductors and ICs.)

Note: You can use any of the simulation softwares used in the previous tasks.

Bonus task: Design an PCB for the circuit you have designed.

Learning outcomes:

- To be able to understand the datasheet (Max voltage, Current).
- Able to understand PCB designing and its rules to be followed.
- Basic understanding of semiconductors and IC working.
- Developing circuit designing capabilities..

Getting started:

Start out by reading the datasheets of the components you are using. Design the circuit and check for errors. Running the circuit simulation should be straightforward, however, if you face any issues, try googling or YouTubing the problem. Please approach us if this fails.

Resources:

- https://electronicscoach.com/bistable-multivibrator.html
- https://resources.pcb.cadence.com/blog/2020-bistable-multivibrator-design-and-simulation