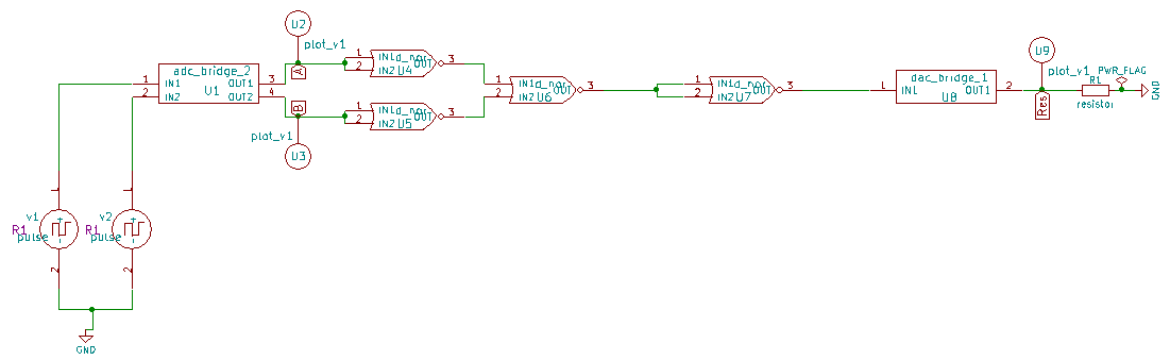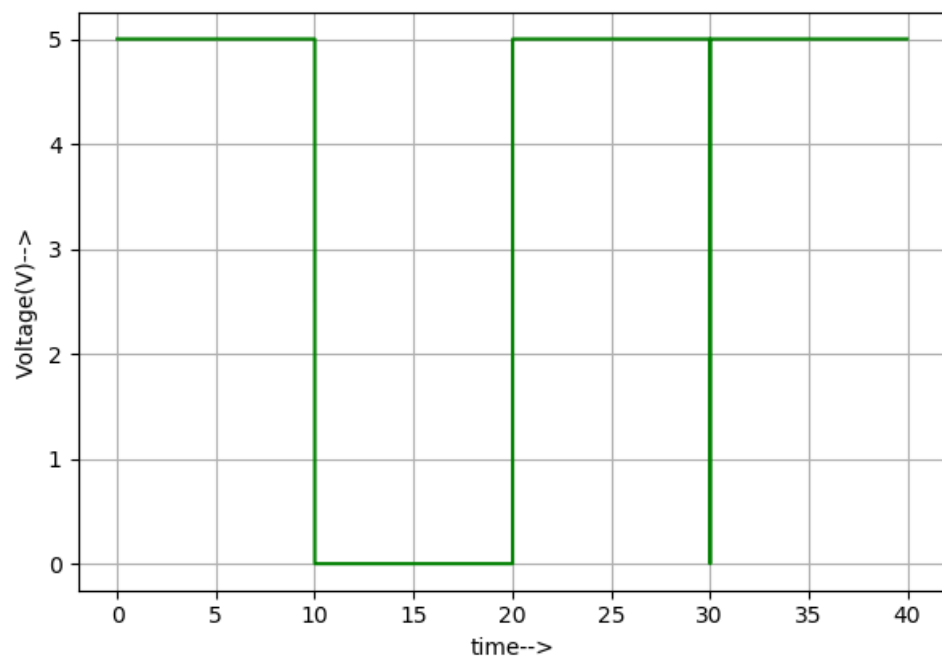# NAND GATE USING NOR

Theory:

NAND and NOR gates possess a special property: they are universal. That is, given enough gates, either type of gate is able to mimic the operation of any other gate type.

For example, it is possible to build a circuit exhibiting the OR function using three interconnected NAND gates. The ability for a single gate type to be able to mimic any other gate type is one enjoyed only by the NAND and the NOR. In fact, digital control systems have been designed around nothing but either NAND or NOR gates, all the necessary logic functions being derived from collections of interconnected NANDs or NORs.
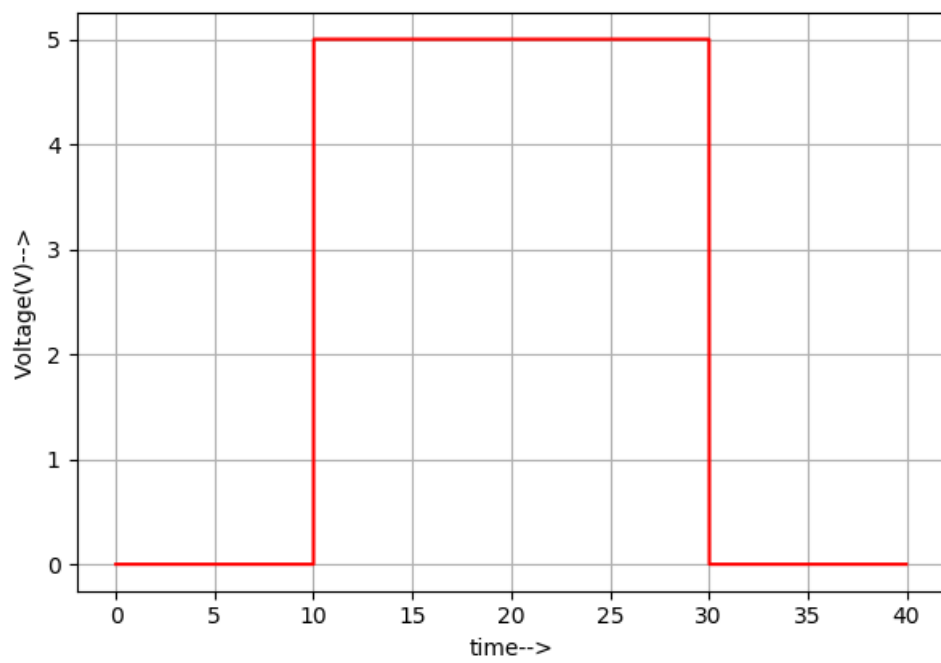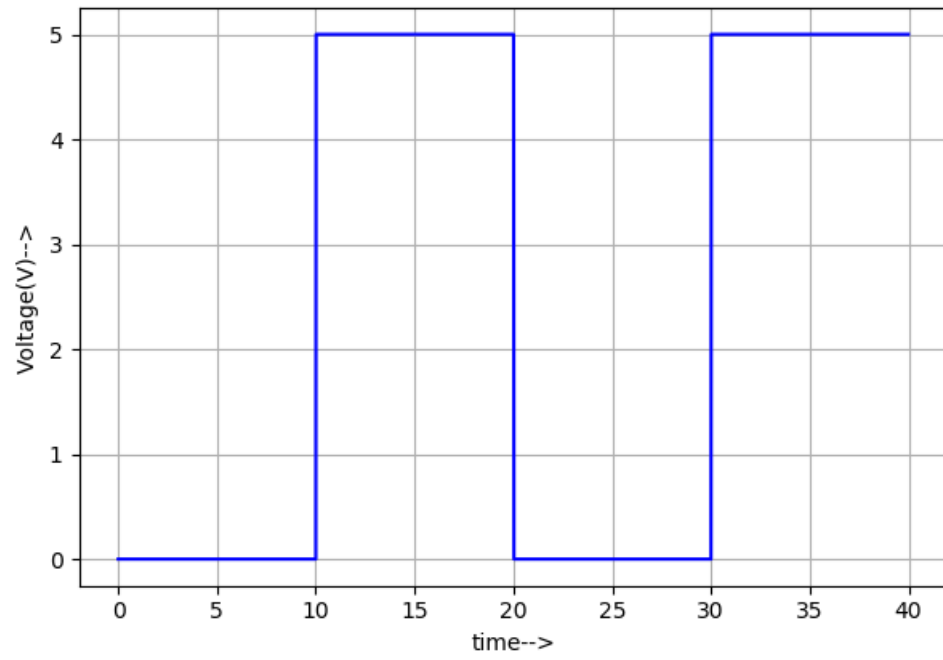
Circuit diagram:

Simulation plots:

Plot A

Plot B

OR logic