9999 Counter Circuit

Counter from 0 to 9999 was made using CD4026, 555 timer and common cathode display.

• Working Principle of the Circuit:

The circuit has 2 clock inputs:

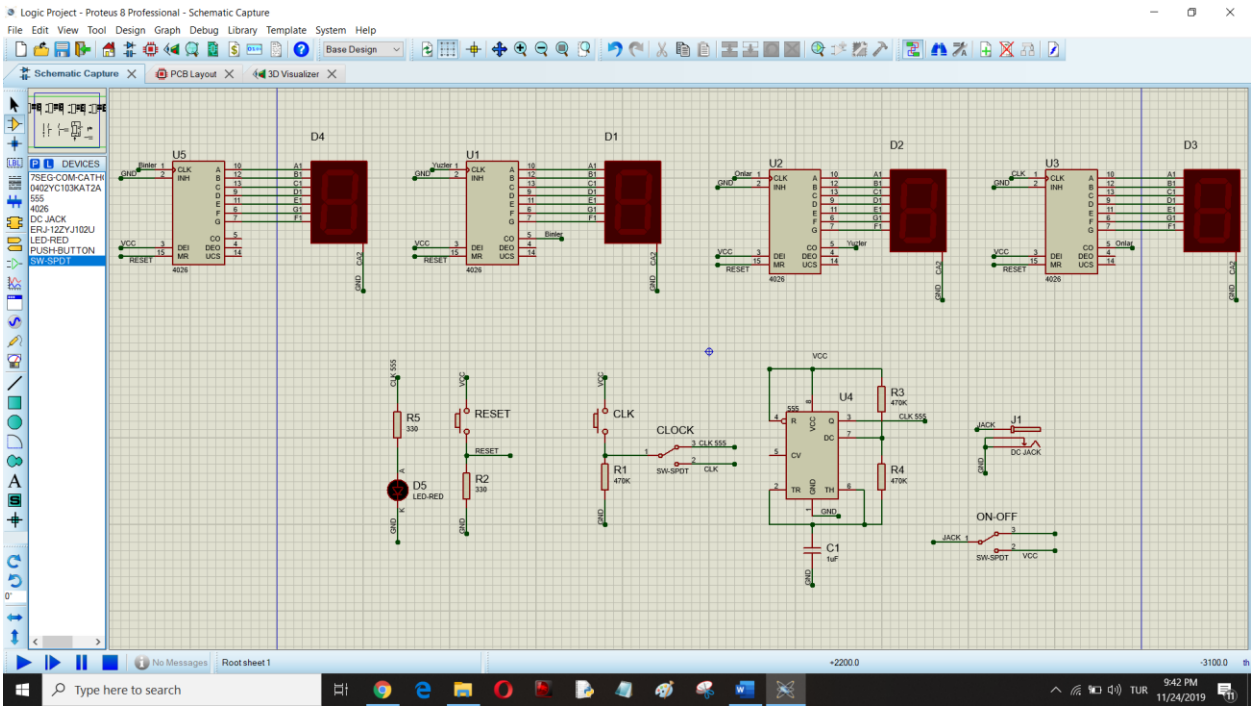
1. 1Hz clock signal using 555 timer.
2. Clock signal at any time with a push button.

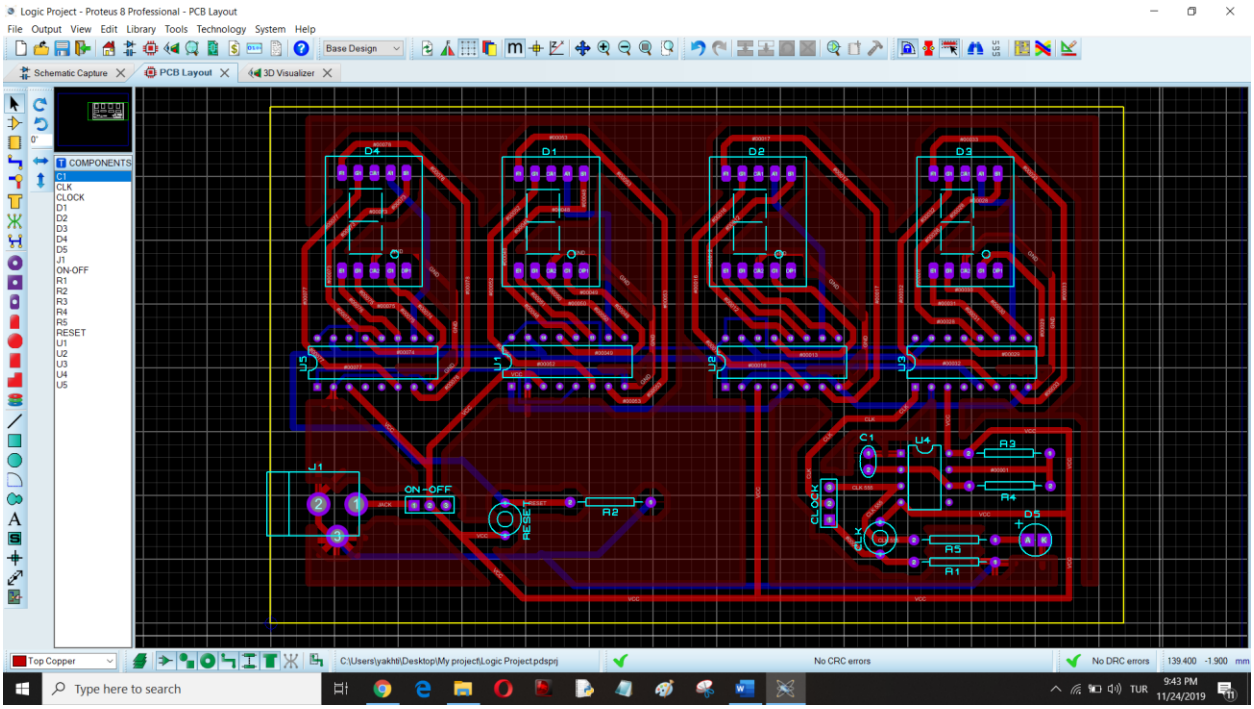
After determining the clock type with the switch, CD4026 increases the number shown on the display by one with each incoming clock pulse, and when this number is equal to 10, the number on the display becomes 0 and it creates a pulse at the IC CO pin which sent to the clock pin of another CD4026 to get tens, hundreds and thousands.

• Design of the Circuit:

Before printing the circuit, simulation, schematic and PCB drawings should be done on the computer. Proteus program was used to simulate the circuit and design the PCB and the 3d design.

Devreyi basmadan önce bilgisayarda simülasyon, şematik ve PCB çizimleri yapılmalıdır. Devremi Proteus programını kullanarak simüle edip PCB ve 3d tasarımını yaptım.




Logic Project - Proteus 8 Professional - PCB Layout
File Output View Edit Library Tools Technology System Help
Base Design
Schematic Capture
PCB Layout
3D Visualizer
COMPONENTS
C1
CLK
CLOCK
D1
D2
D3
D4
D5
J1
ON-OFF
R1
R2
R3
R4
R5
RESET
U1
U2
U3
U4
U5
D4
D1
D2
D3
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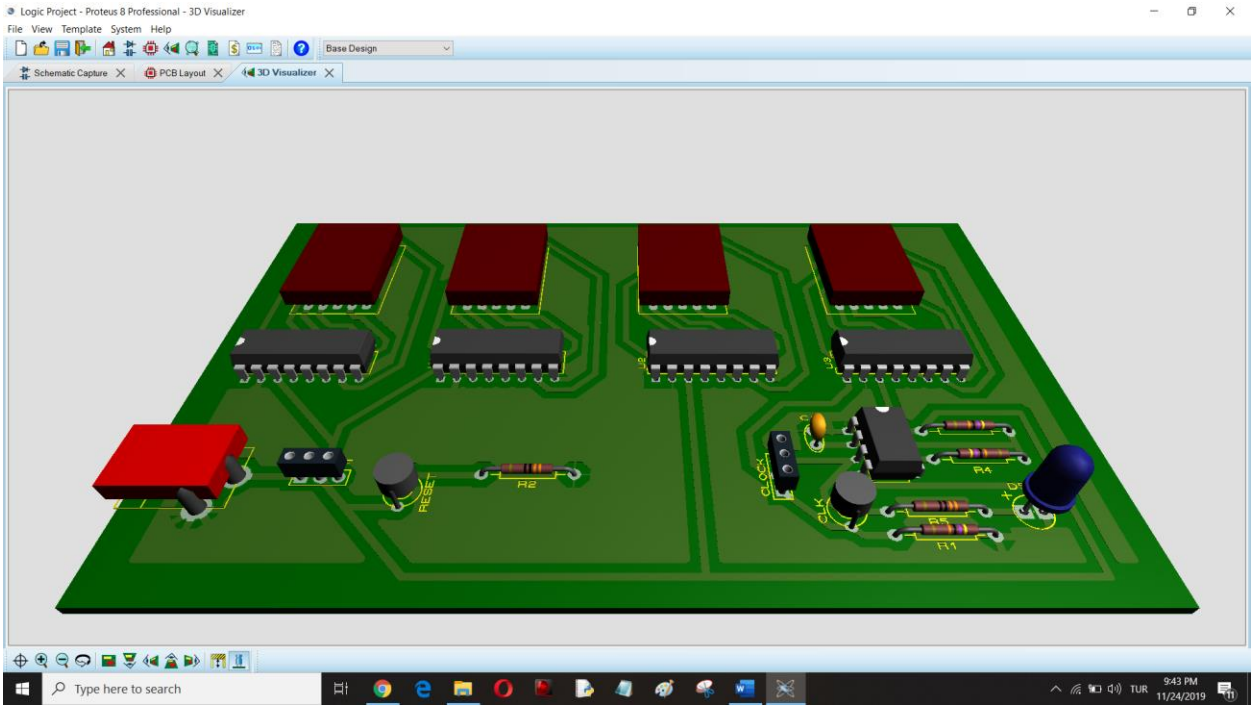
Logic Project - Proteus 8 Professional - 3D Visualizer
File View Template System Help
Base Design
Schematic Capture
PCB Layout
3D Visualizer
R2
RESET
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- ## Printing the Circuit:

After designing the circuit on the computer, we can move on to the printing phase. There are 5 steps to make a printed circuit board:

1. Printing the top and bottom layers of the circuit.
2. transferıng the printed circuit to a copper plate by heating it with a Laminating Machine.
3. Mixing Pedhideol and Salt Spirit together and leaving the circuit in the molecule for a few minutes.
4. Wiping the ink after the copper around the ink ıs dissolved.
5. Drilling the pin locations and putting the elements in their places.