DSM LAB REPORT - 8

Lab 8: Binary Cell for RAM

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Experiment

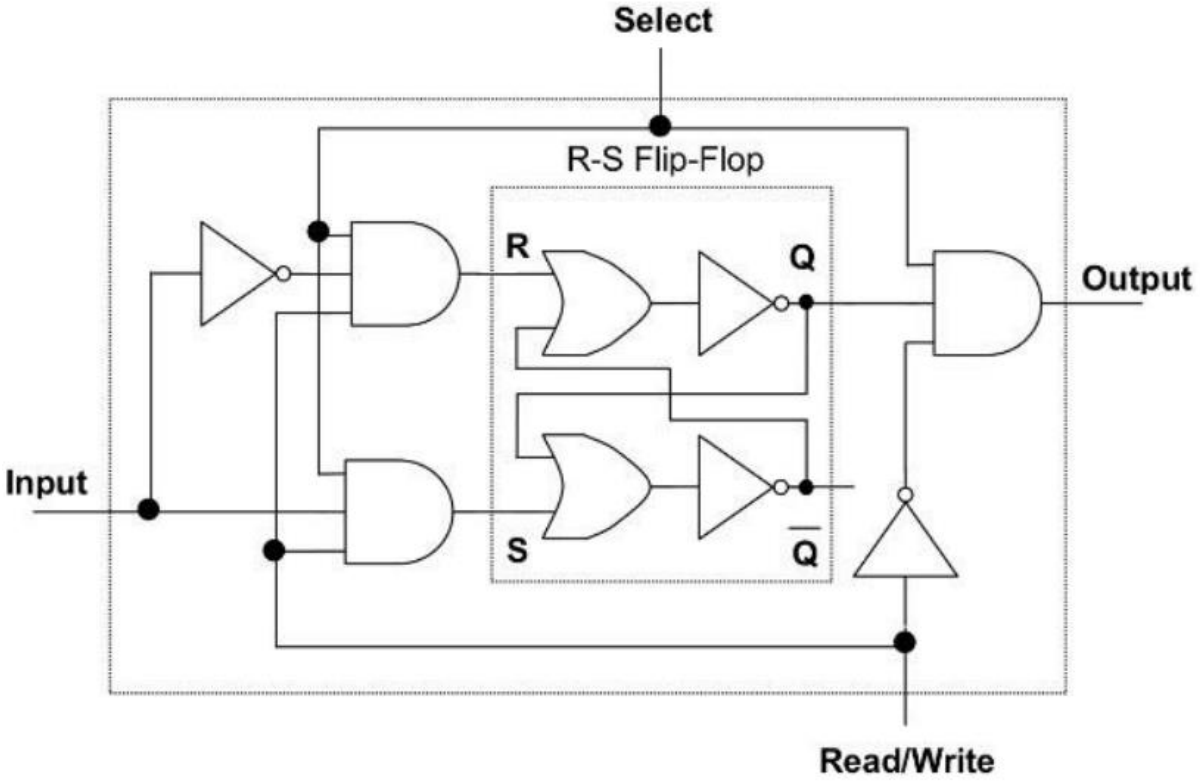
Objective:

To implement and verify the operation of a Binary cell for RAM based on RS flipflop.

Components Used:

Digital Test Kit, ICs = 7432, 7404, 7411 and wires

Reference Circuit:

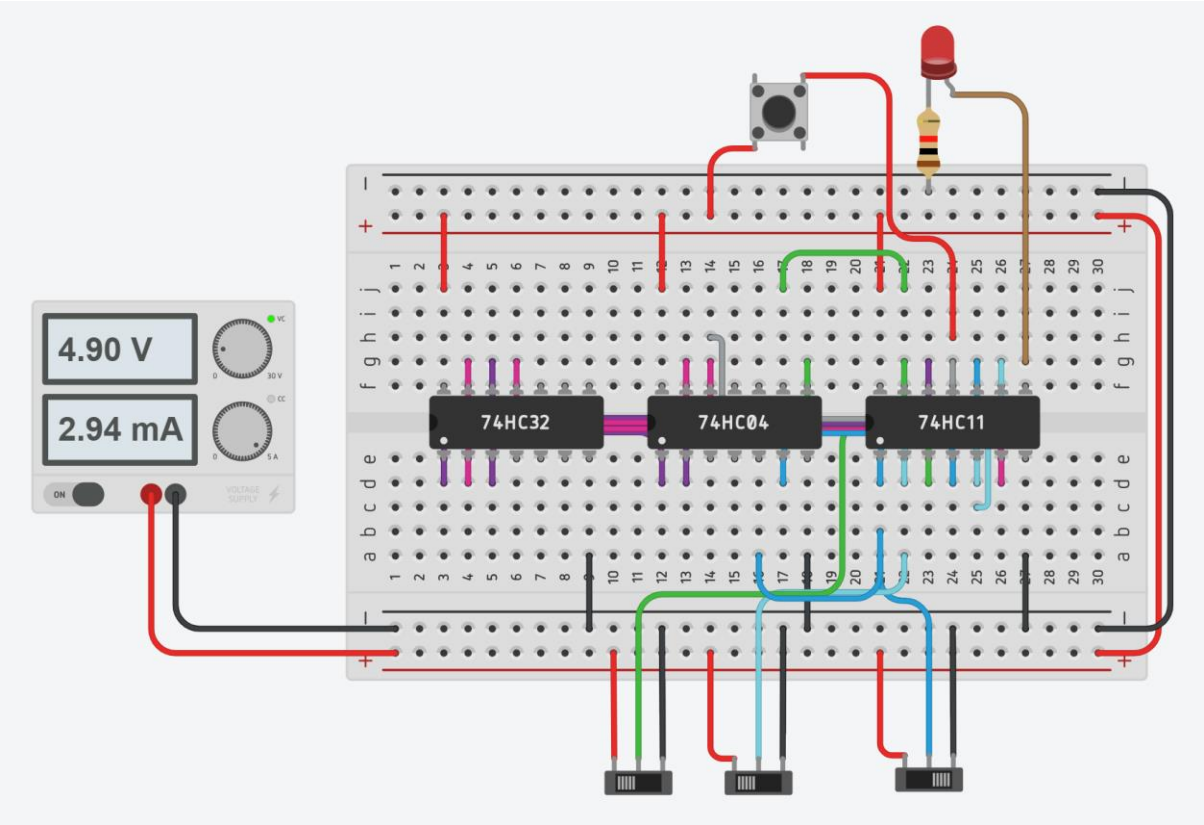


Procedure:

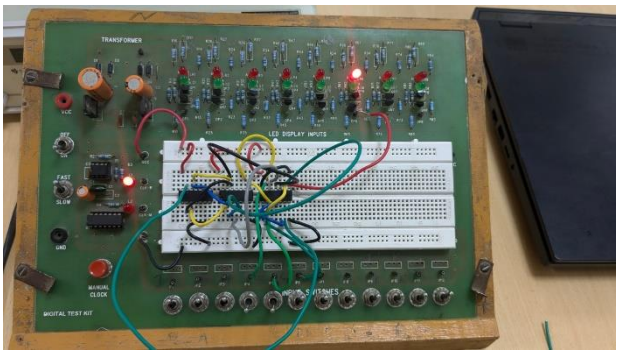
1. Connect the VCC and GND of the Digital Test Kit to the VCC and GND pins of the ICs.
2. Assemble the circuit given above on the Digital Test Kit.

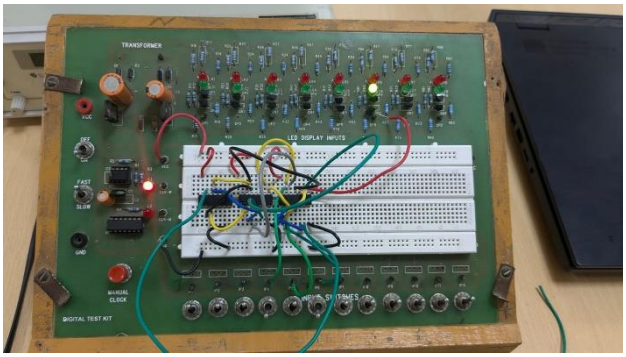
Tinkercad Simulations:

https://www.tinkercad.com/things/dONIoaqiwnf-dsmlab8?sharecode=vaGdQOsvhUrcqSVX4Vj3BNDbQHIHXHHFyf4YJbX6FLk



Output:





Observations:

The select line is responsible for controlling the memory operations. When it is ‘LOW’ , no memory operations can be performed; when it is ‘HIGH’, memory operations can be performed. The input line controls what memory we want stored in the Binary Cell. When the Read/Write line is ‘LOW’ , the memory operation being performed is ‘Read’(essentially moves the value stored in the Binary Cell out of the Binary Cell), and when the Read/Write is ‘HIGH’, the memory operation being performed is ‘Write’(essentially moves a value into the Binary Cell).

Conclusion:

Binary Cell of RAM based on RS flip flop successfully implemented and its operation verified.