exp No: 15

Exp name: Varification of registers.

Aim: To realize and study of shift register in.

(i) SISO
(ii) SIPO
(iii) PIPO
(iv) PISO.

Apparatus needed:

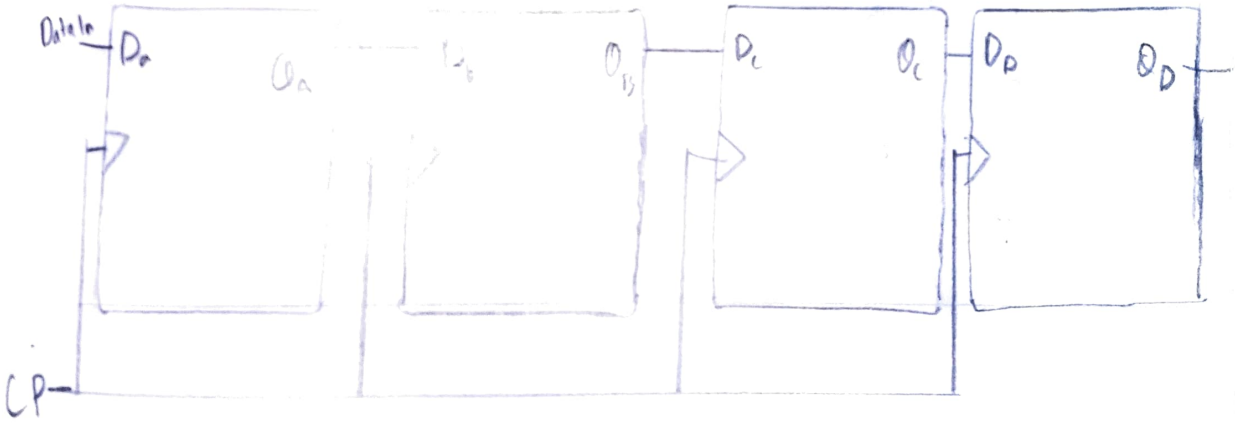
D flip flop - IC 7474 2

2:1 mux - 3

Connecting wires

Theory:

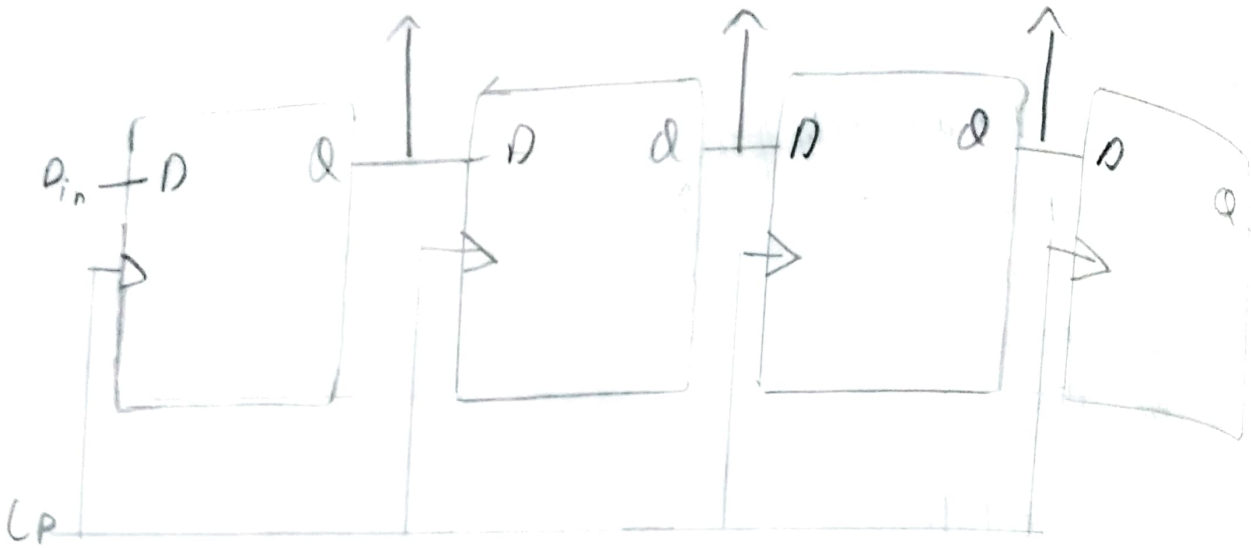
(SISO)



CP	Data inp	Q_D
0	1	x
1	0	x
2	1	x
3	0	x
4	1	x
5	0	0

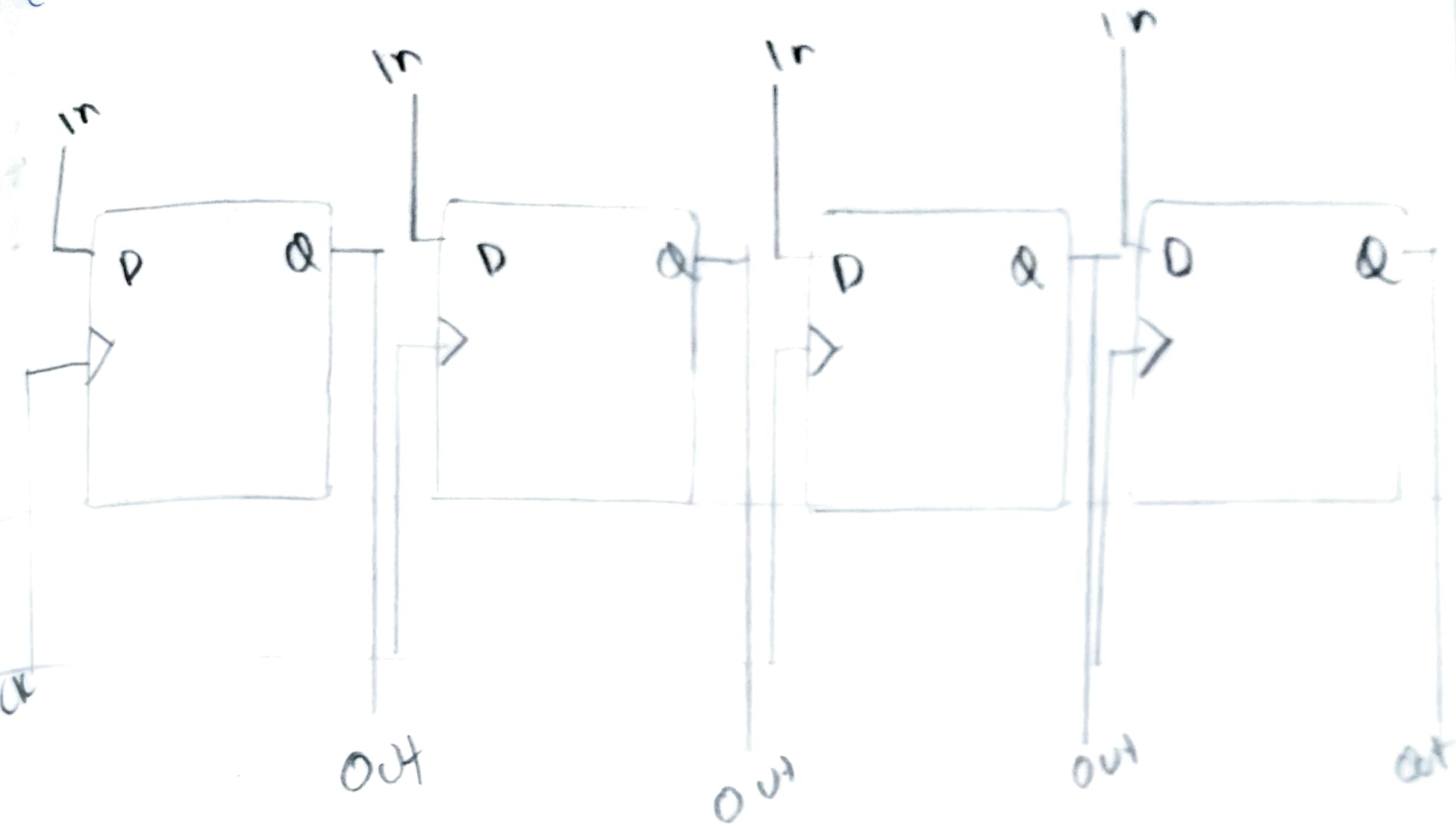
(ii) (SIPO)

(Dout) (↑)

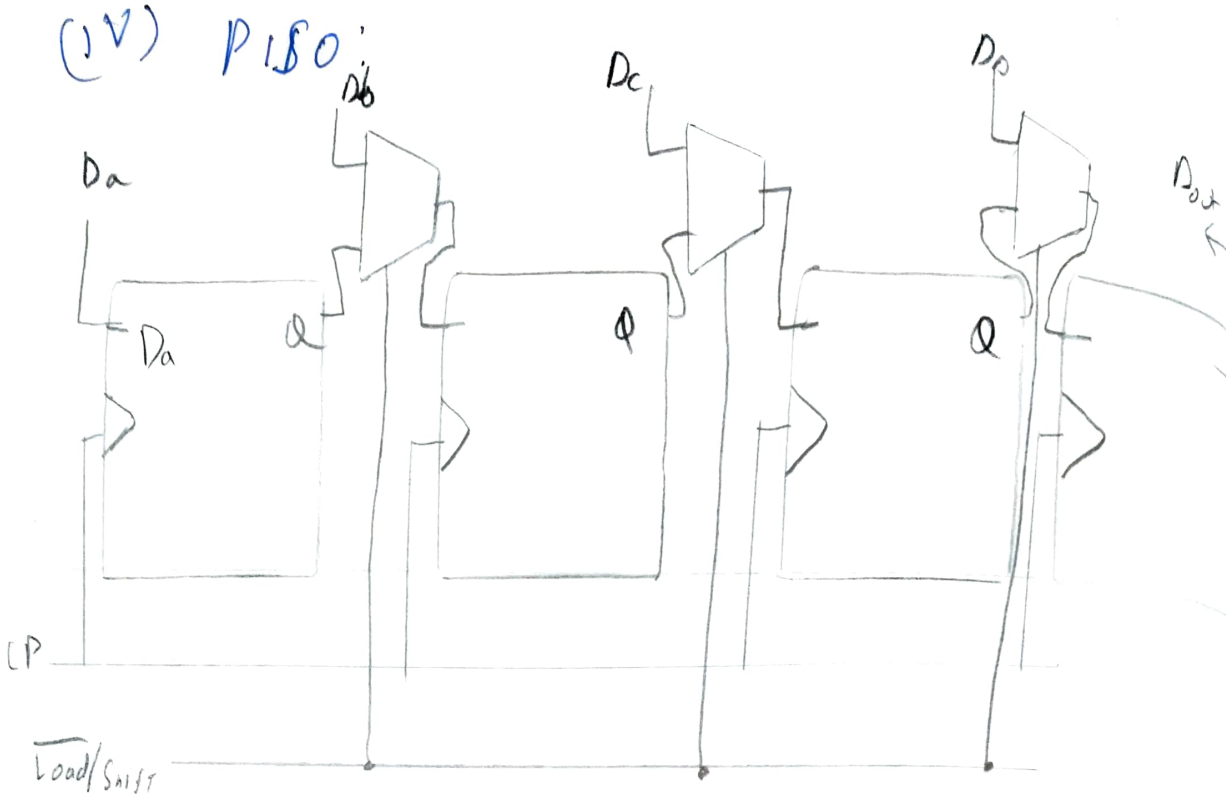


CP	Data In	Q_A	Q_B	Q_C	Q_D
0	1	X	X	X	X
1	0	1	X	X	X
2	1	0	1	X	X
3	0	1	0	0	X
4	1	0	1	1	1

(4) PIPO



CP	Data in				Q_A	Q_B	Q_C	Q_D
	D_A	D_B	D_C	D_D				
0	1	0	1	0	x	x	x	x
1	x	x	x	x	1	0	1	0



PRACTICAL PROCEDURE:

1. ICs are placed properly on the bread board of the IC trainer kit.
2. Connections are made as per the designed circuit diagram. 3. Power supply to the board is turned ON.
4. Circuit is verified as per the truth table of the circuit.

Student's Observations:

• Serial-in to Serial-out (SISO) - the data is shifted serially “IN” and “OUT” of the register, one bit at a time in either a left or right direction under clock control.

• Serial-in to Parallel-out (SIPO) - the register is loaded with serial data, one bit at a time, with the stored data being available at the output in parallel form.

• Parallel-in to Parallel-out (PIPO) - the parallel data is loaded simultaneously into the register, and transferred together to their respective outputs by the same clock pulse.
• Parallel-in to Serial-out (PISO) - the parallel data is loaded into the register simultaneously and is shifted out of the register serially one bit at a time under clock control.

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Regno:201900318
Date:20|4|21
Sign: kaushik

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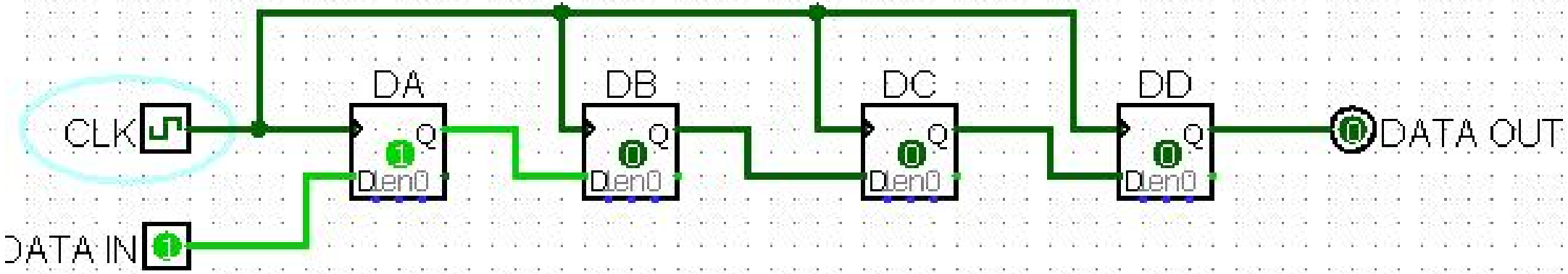
SERIAL IN SERIAL OUT (SISO)



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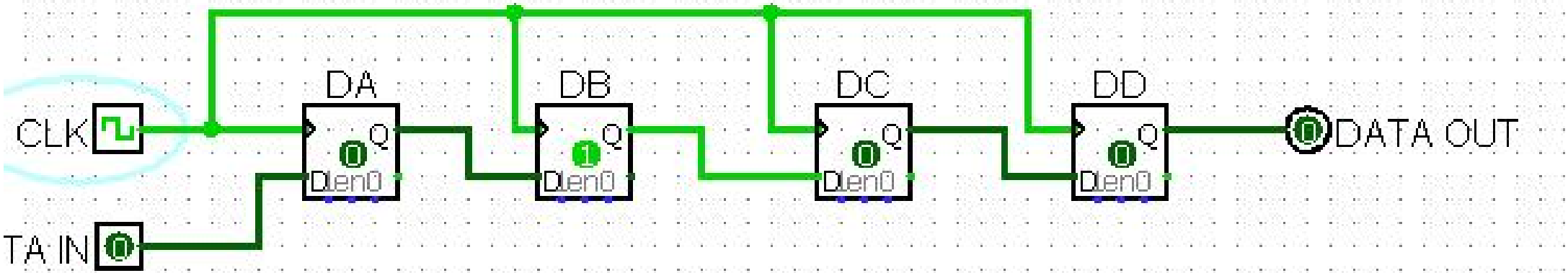
SERIAL IN SERIAL OUT (SISO)



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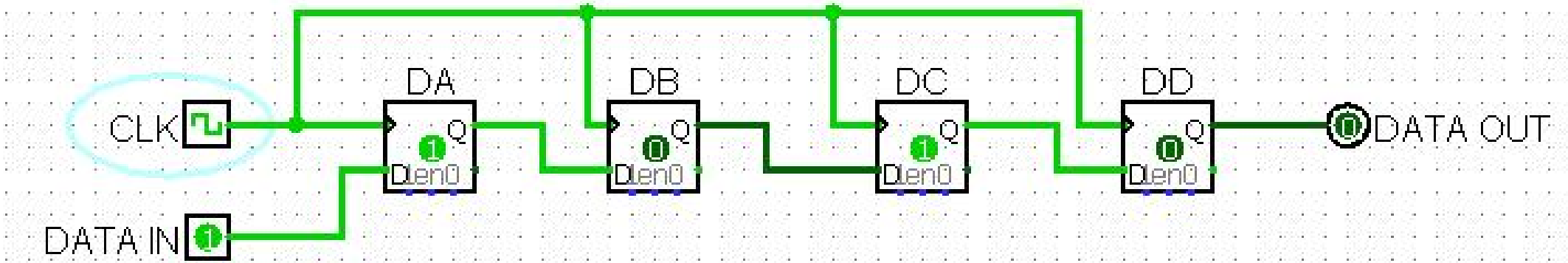
SERIAL IN SERIAL OUT (SISO)



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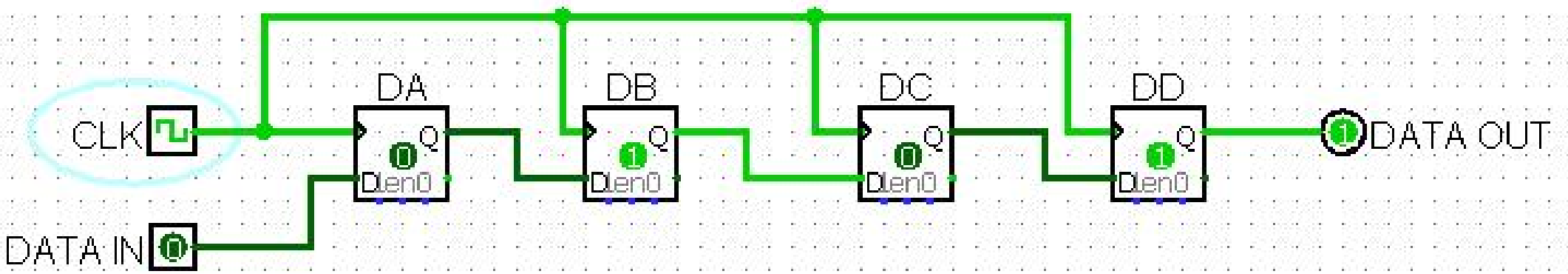
SERIAL IN SERIAL OUT (SISO)



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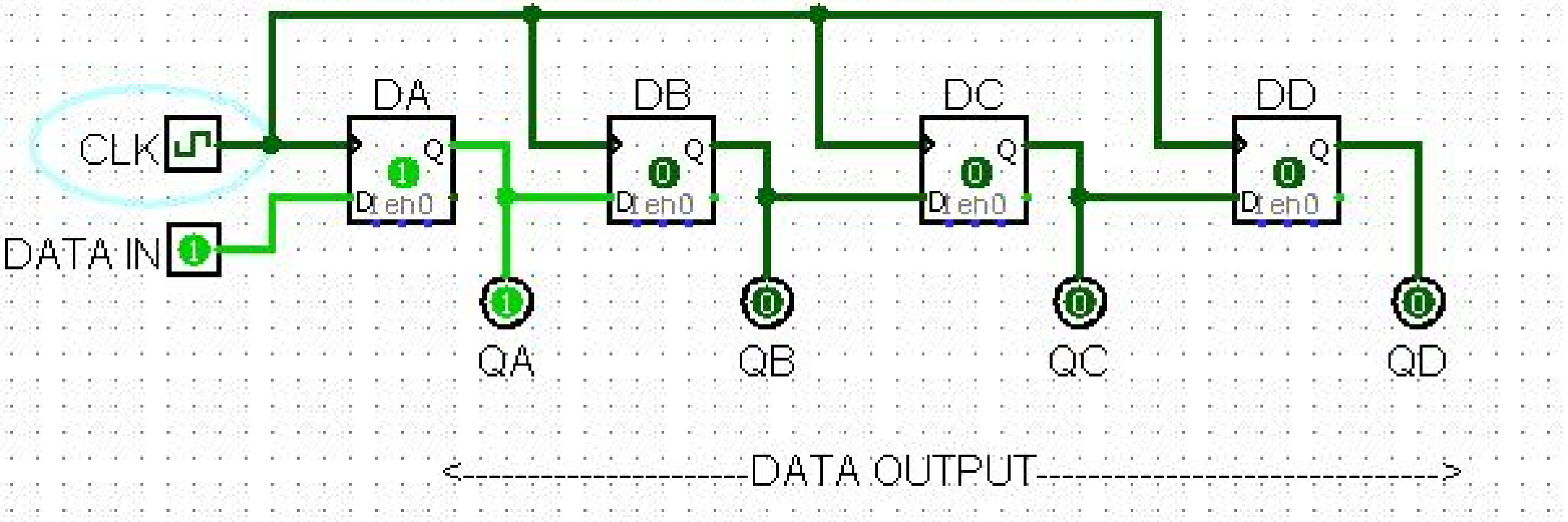
SERIAL IN PARALLEL OUT (SIPO)



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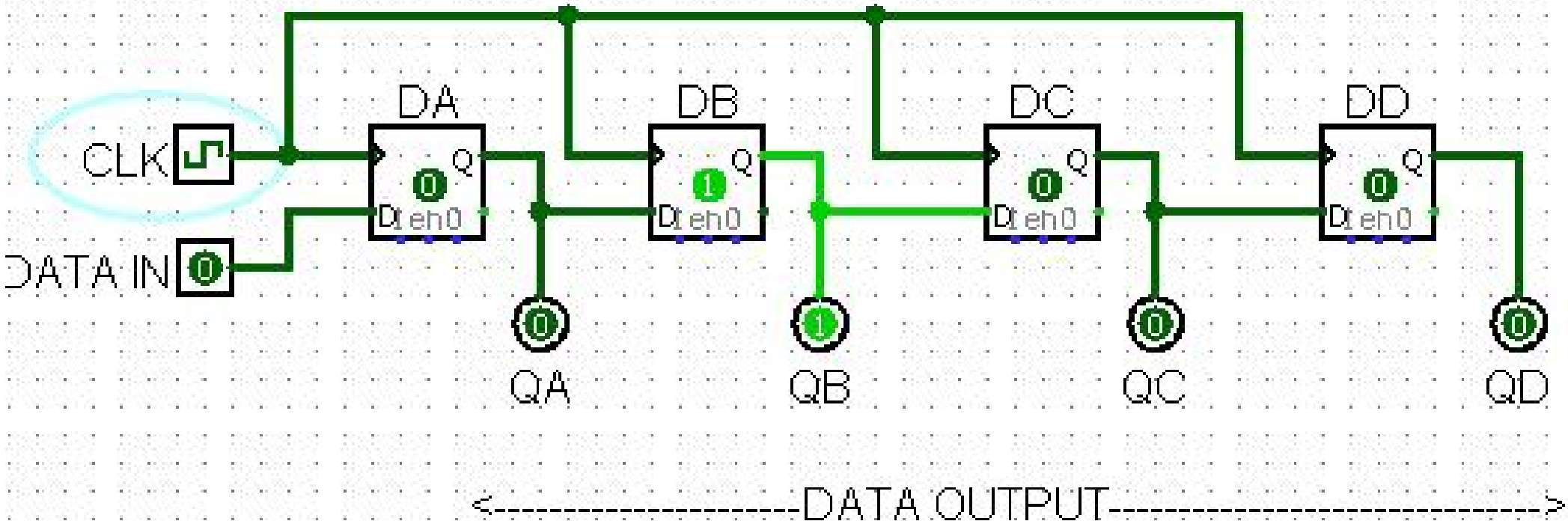
SERIAL IN PARALLEL OUT (SIPO)



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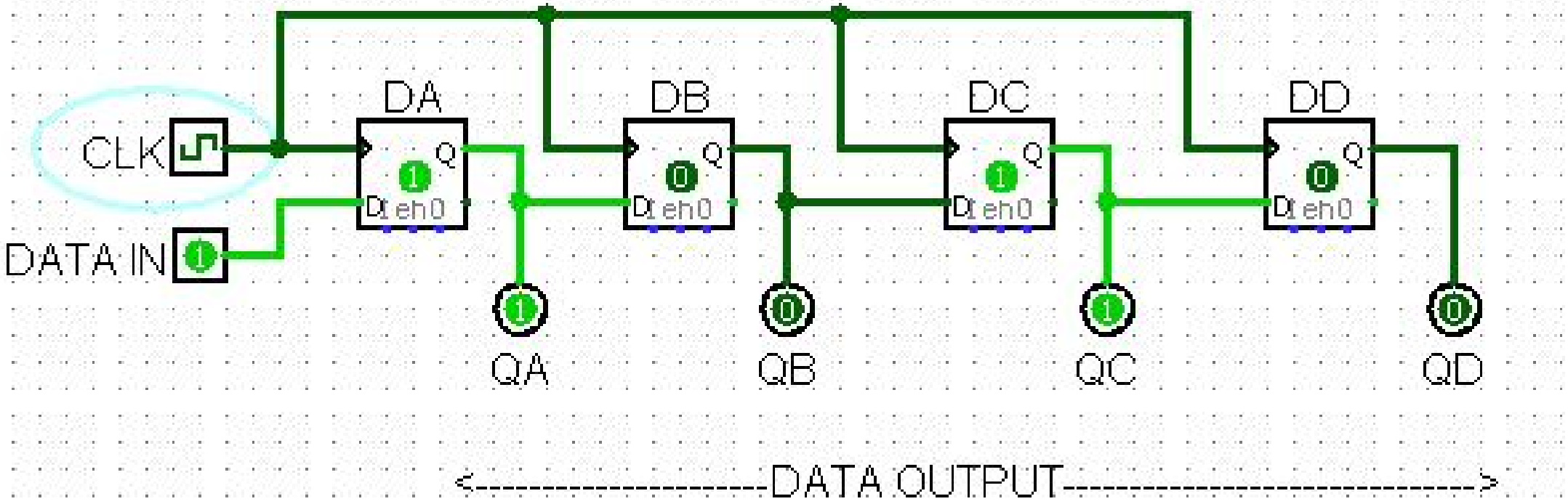
SERIAL IN PARALLEL OUT (SIPO)



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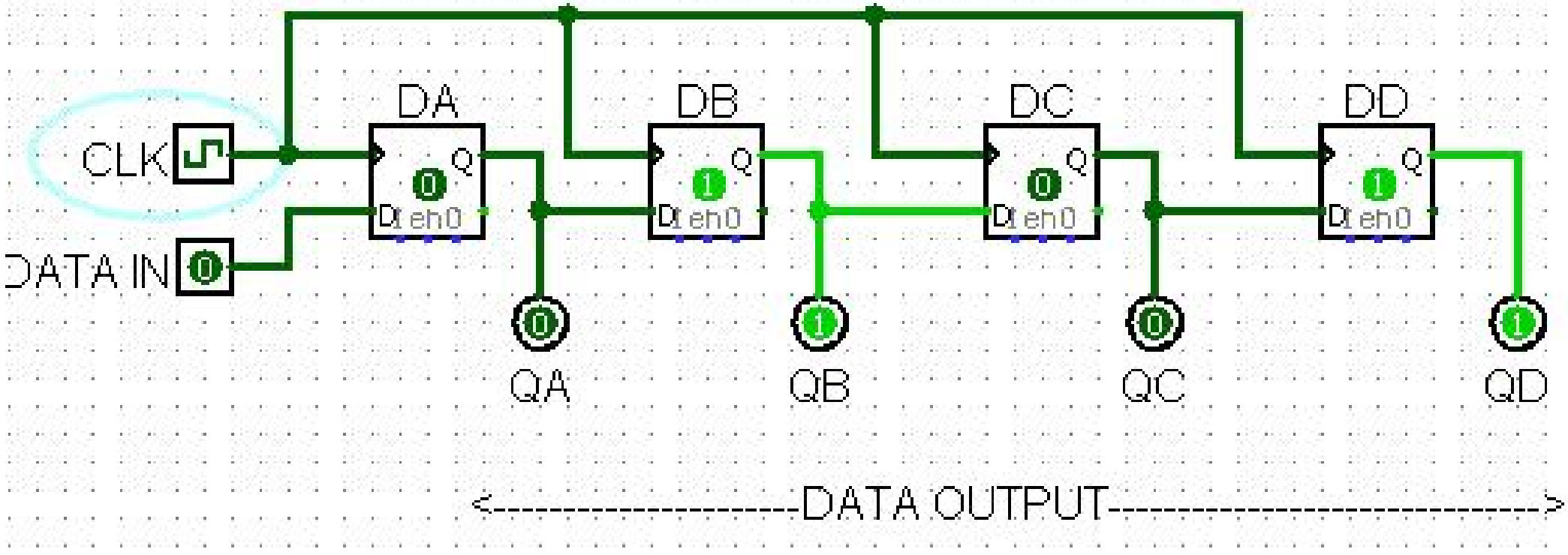
SERIAL IN PARALLEL OUT (SIPO)



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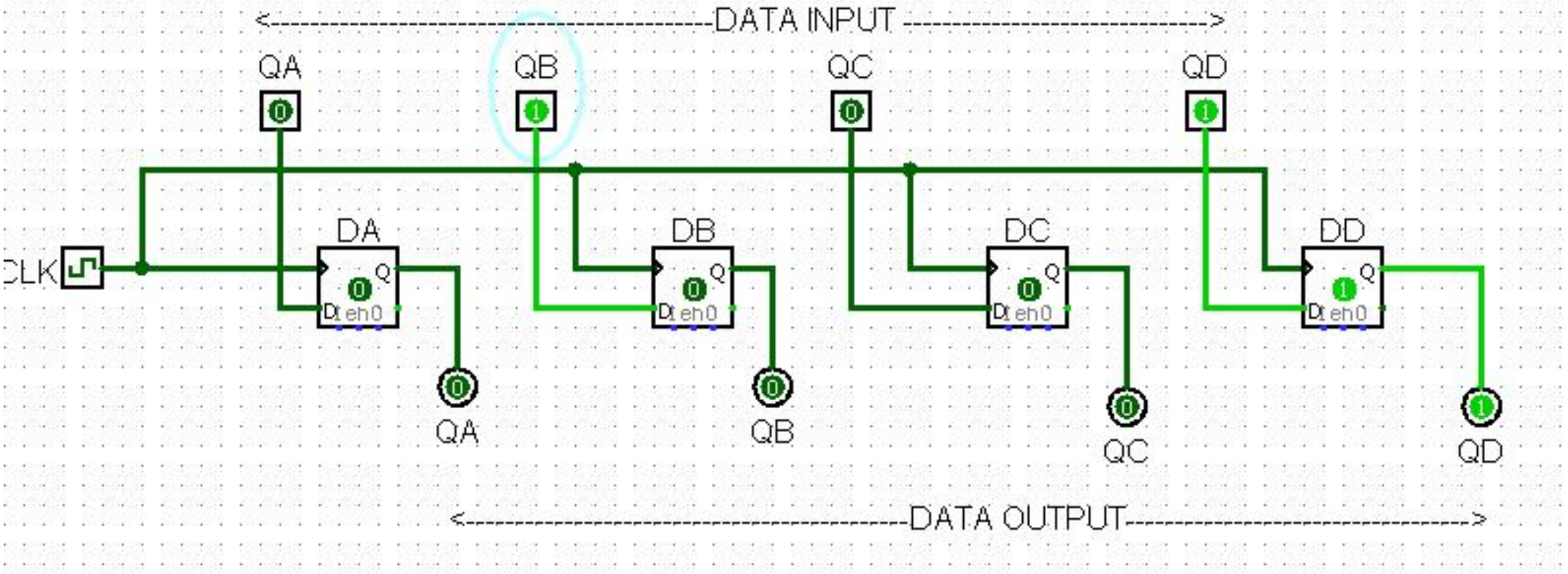
PARALLEL IN PARALLEL OUT (PIPO)



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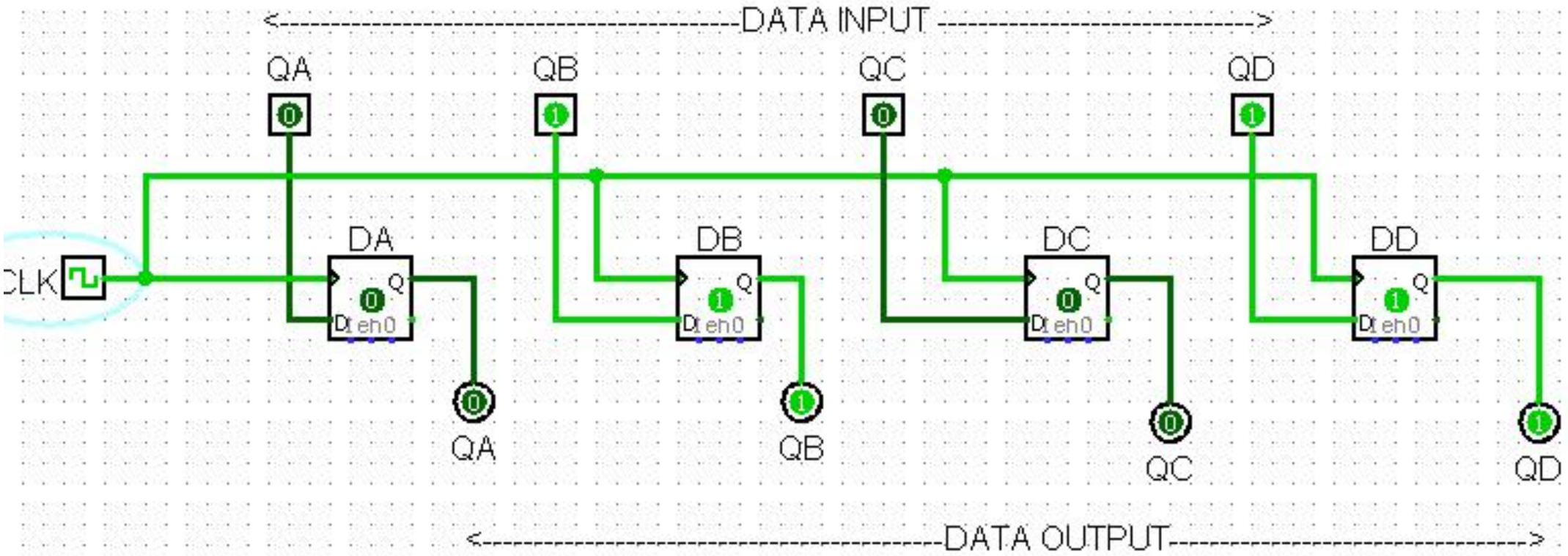
PARALLEL IN PARALLEL OUT (PIPO)



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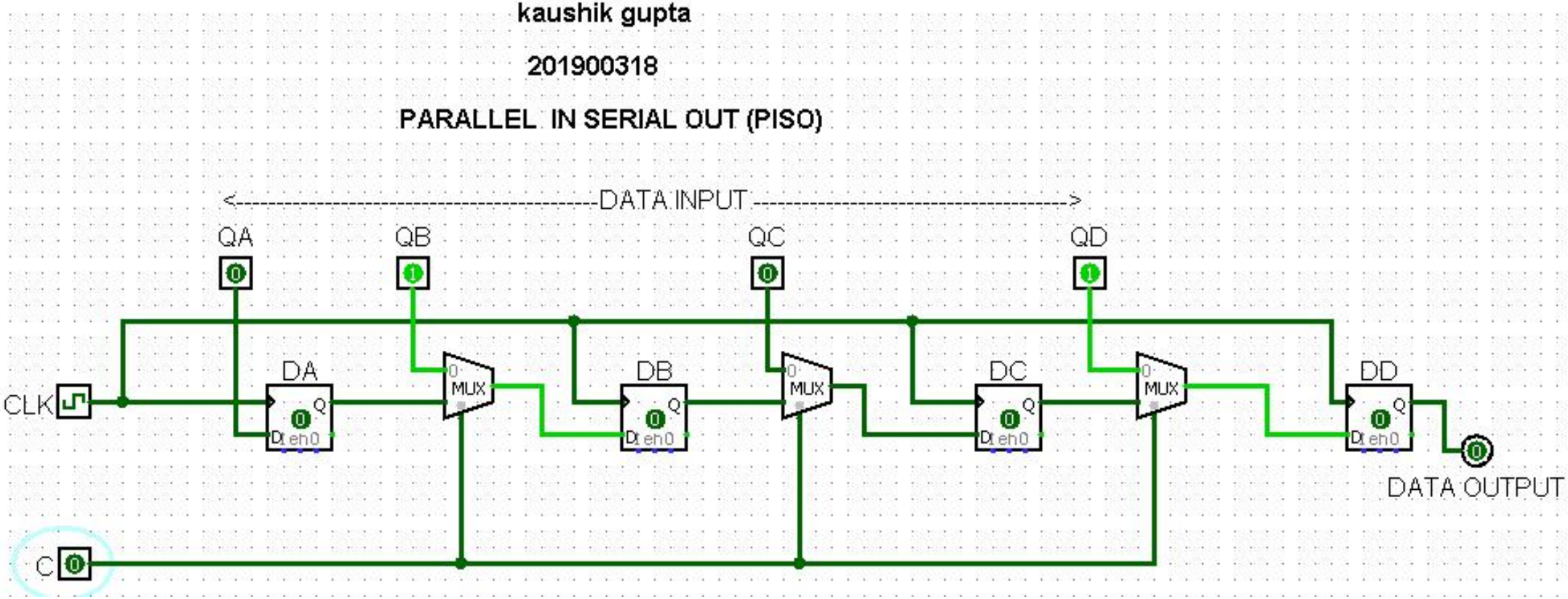
PARALLEL IN SERIAL OUT (PISO)



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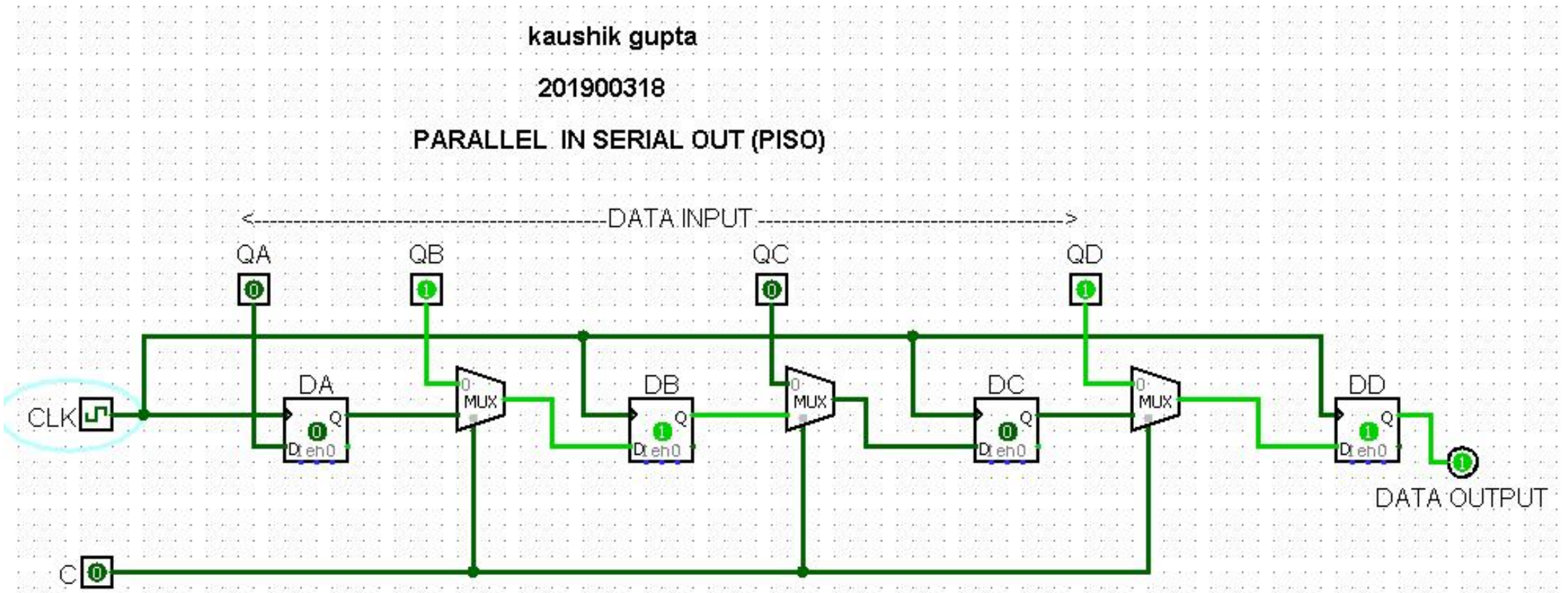

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PARALLEL IN SERIAL OUT (PISO)