

# Assignment #7.

Name:

M. Bilal Elahi

ID:

15434

Department:

CS

Submitted to:

Sid M. Amin.

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Q1) A register may hold an instruction, a storage address, or any kind of data, such as a bit sequence, or individual characters, e.g. instruction may specify that content

Q2) There are 8 bits per byte, so the storage capacity would be 16 bits.

Q3) The storage capacity of register is total number of bits (1,0) of digital data it can retain.

Q4) The serial input register is initially cleared.

The input sequence is 101

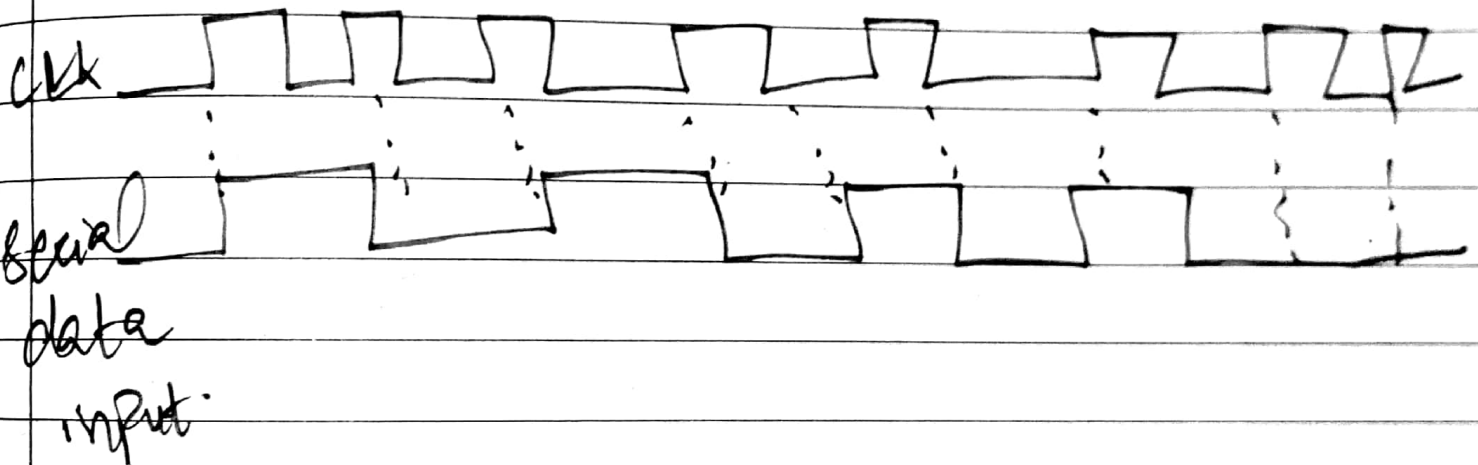
(2)

The 4 input serial output has four 4-flip flop.

represented as  $Q_3, Q_2, Q_1, Q_0$ .

Q5)

Consider a 4 bit serial in serial in/output shift register with data input and clock is shown.

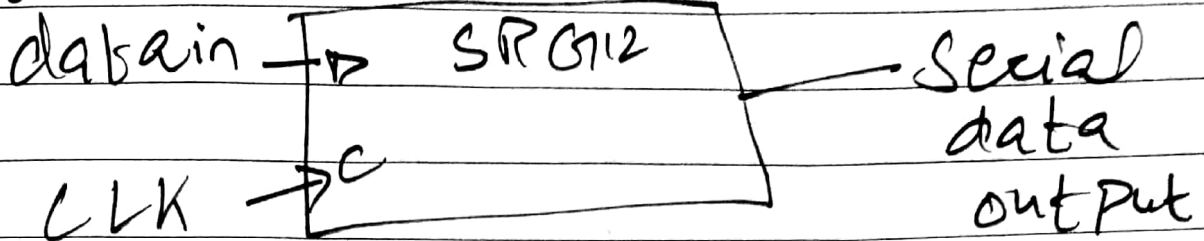


Q6)

The shift register is

(3)

Serial



Timing	Register A	Register B
T <sub>1</sub>	1 0 1 1	0 0 1 0
T <sub>2</sub>	1 1 0 1 1	1 0 0 1
T <sub>3</sub>	1 1 1 0	1 1 0 0
T <sub>4</sub>	0 1 1 1	0 1 1 0
T <sub>5</sub>	1 0 1 1	1 0 1 1

Refer to figure 3 of serial in/output shift register and waveform of clock and data input

The shift register has 10-bit shift register, has 10 stages.

(9)

The initial stage is 00000000

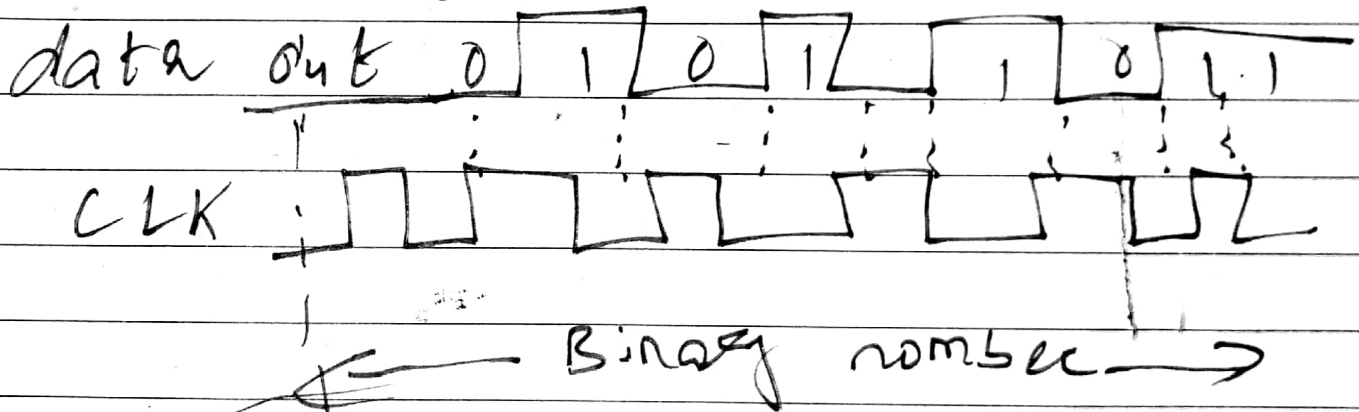
The input sequence form is

0 10100111 00 100110110.

Q8)

refer to figure 4, binary number of data, out bit

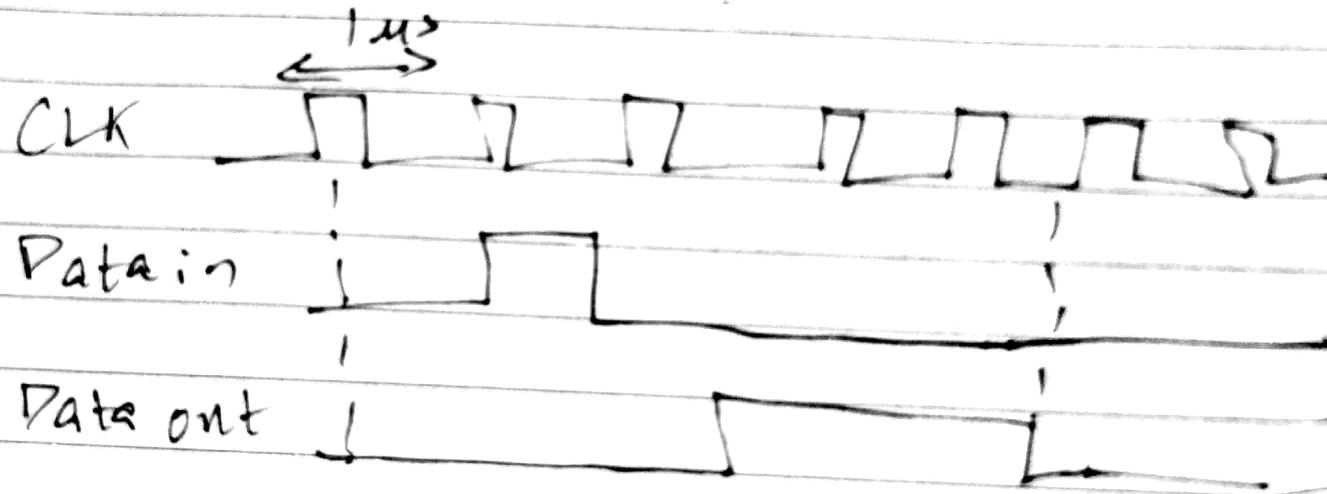
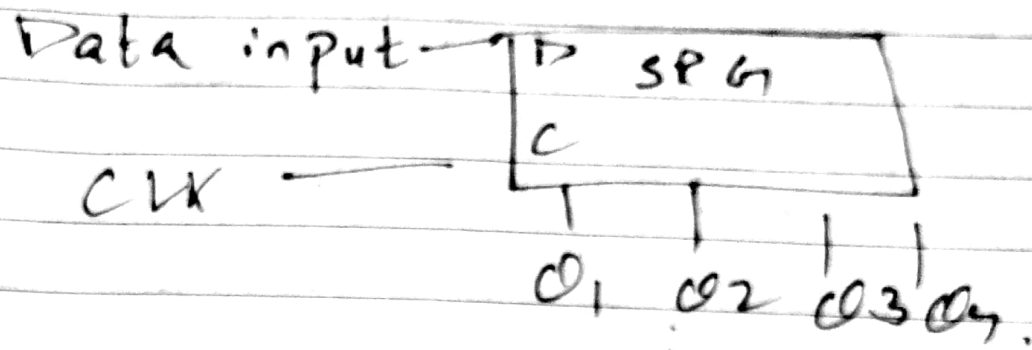
Drawing modified data out  
LSB



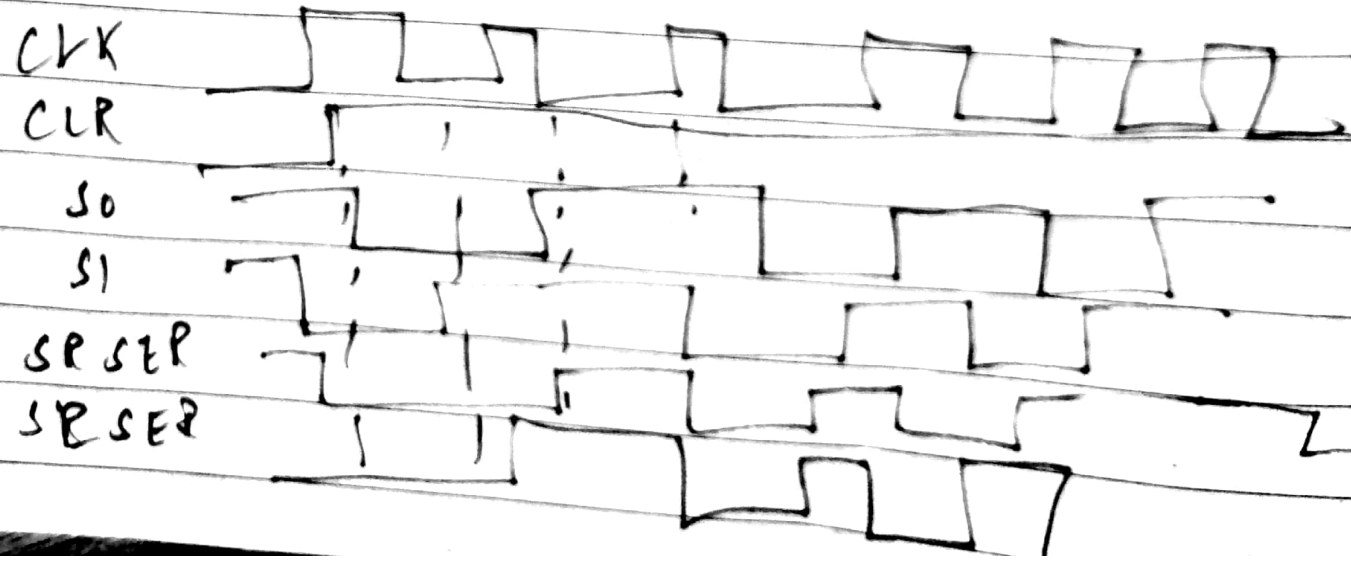
Q9)

5

(Q9) Given register is



(Q10)



(8)

Clock pulse NO	QA	QB	QC	QD
0	0	0	0	0
1	1	0	0	0
2	0	1	0	0
3	0	0	1	0
4	0	0	0	1
5	0	0	0	0