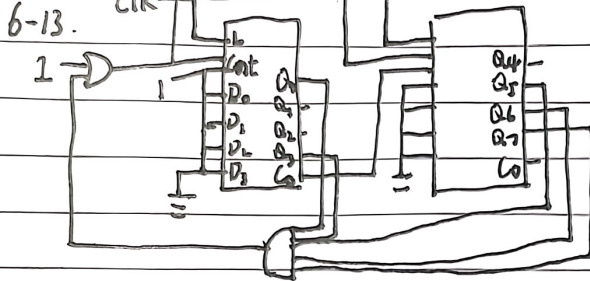


6-b. (a) 1000, 0100, 0010, 0001, 0000

(b) n ,
clk-



6-16. Present state Next state.

ABC

0	0	7
0	5	1

0	0	1
0	1	0

$$\begin{array}{r} 103 \\ 103 \\ \hline 206 \end{array}$$
101

Handwritten musical notation for the first staff of 'The Rose Tree'. It features a treble clef, a key signature of one flat (B-flat), and a 2/4 time signature. The melody consists of the notes G4, A4, Bb4, A4, G4, F4, E4, D4, C4, Bb3, A3, G3, F3, E3, D3, C3, Bb2, A2, G2, F2, E2, D2, C2, Bb1, A1, G1, F1, E1, D1, C1, Bb0, A0, G0, F0, E0, D0, C0, Bb-1, A-1, G-1, F-1, E-1, D-1, C-1, Bb-2, A-2, G-2, F-2, E-2, D-2, C-2, Bb-3, A-3, G-3, F-3, E-3, D-3, C-3, Bb-4, A-4, G-4, F-4, E-4, D-4, C-4, Bb-5, A-5, G-5, F-5, E-5, D-5, C-5, Bb-6, A-6, G-6, F-6, E-6, D-6, C-6, Bb-7, A-7, G-7, F-7, E-7, D-7, C-7, Bb-8, A-8, G-8, F-8, E-8, D-8, C-8, Bb-9, A-9, G-9, F-9, E-9, D-9, C-9, Bb-10, A-10, G-10, F-10, E-10, D-10, C-10, Bb-11, A-11, G-11, F-11, E-11, D-11, C-11, Bb-12, A-12, G-12, F-12, E-12, D-12, C-12, Bb-13, A-13, G-13, F-13, E-13, D-13, C-13, Bb-14, A-14, G-14, F-14, E-14, D-14, C-14, Bb-15, A-15, G-15, F-15, E-15, D-15, C-15, Bb-16, A-16, G-16, F-16, E-16, D-16, C-16, Bb-17, A-17, G-17, F-17, E-17, D-17, C-17, Bb-18, A-18, G-18, F-18, E-18, D-18, C-18, Bb-19, A-19, G-19, F-19, E-19, D-19, C-19, Bb-20, A-20, G-20, F-20, E-20, D-20, C-20, Bb-21, A-21, G-21, F-21, E-21, D-21, C-21, Bb-22, A-22, G-22, F-22, E-22, D-22, C-22, Bb-23, A-23, G-23, F-23, E-23, D-23, C-23, Bb-24, A-24, G-24, F-24, E-24, D-24, C-24, Bb-25, A-25, G-25, F-25, E-25, D-25, C-25, Bb-26, A-26, G-26, F-26, E-26, D-26, C-26, Bb-27, A-27, G-27, F-27, E-27, D-27, C-27, Bb-28, A-28, G-28, F-28, E-28, D-28, C-28, Bb-29, A-29, G-29, F-29, E-29, D-29, C-29, Bb-30, A-30, G-30, F-30, E-30, D-30, C-30, Bb-31, A-31, G-31, F-31, E-31, D-31, C-31, Bb-32, A-32, G-32, F-32, E-32, D-32, C-32, Bb-33, A-33, G-33, F-33, E-33, D-33, C-33, Bb-34, A-34, G-34, F-34, E-34, D-34, C-34, Bb-35, A-35, G-35, F-35, E-35, D-35, C-35, Bb-36, A-36, G-36, F-36, E-36, D-36, C-36, Bb-37, A-37, G-37, F-37, E-37, D-37, C-37, Bb-38, A-38, G-38, F-38, E-38, D-38, C-38, Bb-39, A-39, G-39, F-39, E-39, D-39, C-39, Bb-40, A-40, G-40, F-40, E-40, D-40, C-40, Bb-41, A-41, G-41, F-41, E-41, D-41, C-41, Bb-42, A-42, G-42, F-42, E-42, D-42, C-42, Bb-43, A-43, G-43, F-43, E-43, D-43, C-43, Bb-44, A-44, G-44, F-44, E-44, D-44, C-44, Bb-45, A-45, G-45, F-45, E-45, D-45, C-45, Bb-46, A-46, G-46, F-46, E-46, D-46, C-46, Bb-47, A-47, G-47, F-47, E-47, D-47, C-47, Bb-48, A-48, G-48, F-48, E-48, D-48, C-48, Bb-49, A-49, G-49, F-49, E-49, D-49, C-49, Bb-50, A-50, G-50, F-50, E-50, D-50, C-50, Bb-51, A-51, G-51, F-51, E-51, D-51, C-51, Bb-52, A-52, G-52, F-52, E-52, D-52, C-52, Bb-53, A-53, G-53, F-53, E-53, D-53, C-53, Bb-54, A-54, G-54, F-54, E-54, D-54, C-54, Bb-55, A-55, G-55, F-55, E-55, D-55, C-55, Bb-56, A-56, G-56, F-56, E-56, D-56, C-56, Bb-57, A-57, G-57, F-57, E-57, D-57, C-57, Bb-58, A-58, G-58, F-58, E-58, D-58, C-58, Bb-59, A-59, G-59, F-59, E-59, D-59, C-59, Bb-60, A-60, G-60, F-60, E-60, D-60, C-60, Bb-61, A-61, G-61, F-61, E-61, D-61, C-61, Bb-62, A-62, G-62, F-62, E-62, D-62, C-62, Bb-63, A-63, G-63, F-63, E-63, D-63, C-63, Bb-64, A-64, G-64, F-64, E-64, D-64, C-64, Bb-65, A-65, G-65, F-65, E-65, D-65, C-65, Bb-66, A-66, G-66, F-66, E-66, D-66, C-66, Bb-67, A-67, G-67, F-67, E-67, D-67, C-67, Bb-68, A-68, G-68, F-68, E-68, D-68, C-68, Bb-69, A-69, G-69, F-69, E-69, D-69, C-69, Bb-70, A-70, G-70, F-70, E-70, D-70, C-70, Bb-71, A-71, G-71, F-71, E-71, D-71, C-71, Bb-72, A-72, G-72, F-72, E-72, D-72, C-72, Bb-73, A-73, G-73, F-73, E-73, D-73, C-73, Bb-74, A-74, G-74, F-74, E-74, D-74, C-74, Bb-75, A-75, G-75, F-75, E-75, D-75, C-75, Bb-76, A-76, G-76, F-76, E-76, D-76, C-76, Bb-77, A-77, G-77, F-77, E-77, D-77, C-77, Bb-78, A-78, G-78, F-78, E-78, D-78, C-78, Bb-79, A-79, G-79, F-79, E-79, D-79, C-79, Bb-80, A-80, G-80, F-80, E-80, D-80, C-80, Bb-81, A-81, G-81, F-81, E-81, D-81, C-81, Bb-82, A-82, G-82, F-82, E-82, D-82, C-82, Bb-83, A-83, G-83, F-83, E-83, D-83, C-83, Bb-84, A-84, G-84, F-84, E-84, D-84, C-84, Bb-85, A-85, G-85, F-85, E-85, D-85, C-85, Bb-86, A-86, G-86, F-86, E-86, D-86, C-86, Bb-87, A-87, G-87, F-87, E-87, D-87, C-87, Bb-88, A-88, G-88, F-88, E-88, D-88, C-88, Bb-89, A-89, G-89, F-89, E-89, D-89, C-89, Bb-90, A-90, G-90, F-90, E-90, D-90, C-90, Bb-91, A-91, G-91, F-91, E-91, D-91, C-91, Bb-92, A-92, G-92, F-92, E-92, D-92, C-92, Bb-93, A-93, G-93, F-93, E-93, D-93, C-93, Bb-94, A-94, G-94, F-94, E-94, D-94, C-94, Bb-95, A-95, G-95, F-95, E-95, D-95, C-95, Bb-96, A-96, G-96, F-96, E-96, D-96, C-96, Bb-97, A-97, G-97, F-97, E-97, D-97, C-97, Bb-98, A-98, G-98, F-98, E-98, D-98, C-98, Bb-99, A-99, G-99, F-99, E-99, D-99, C-99, Bb-100, A-100, G-100, F-100, E-100, D-100, C-100, Bb-101, A-101, G-101, F-101, E-101, D-101, C-101, Bb-102, A-102, G-102, F-102, E-102, D-102, C-102, Bb-103, A-103, G-103, F-103, E-103, D-103, C-103, Bb-104, A-104, G-104, F-104, E-104, D-104, C-104, Bb-105, A-105, G-105, F-105, E-105, D-105, C-105, Bb-106, A-106, G-106, F-106, E-106, D-106, C-106, Bb-107, A-107, G-107, F-107, E-107, D-107, C-107, Bb-108, A-108, G-108, F-108, E-108, D-108, C-108, Bb-109, A-109, G-109, F-10

• •

ABC

0	1	0
0	1	1

$$\begin{array}{r} 0.001 \\ 0.001 \end{array}$$
$$\begin{array}{r} 120 \\ 110 \end{array}$$

1	1	1
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1	0	1
0	0	0

□ □ □ □

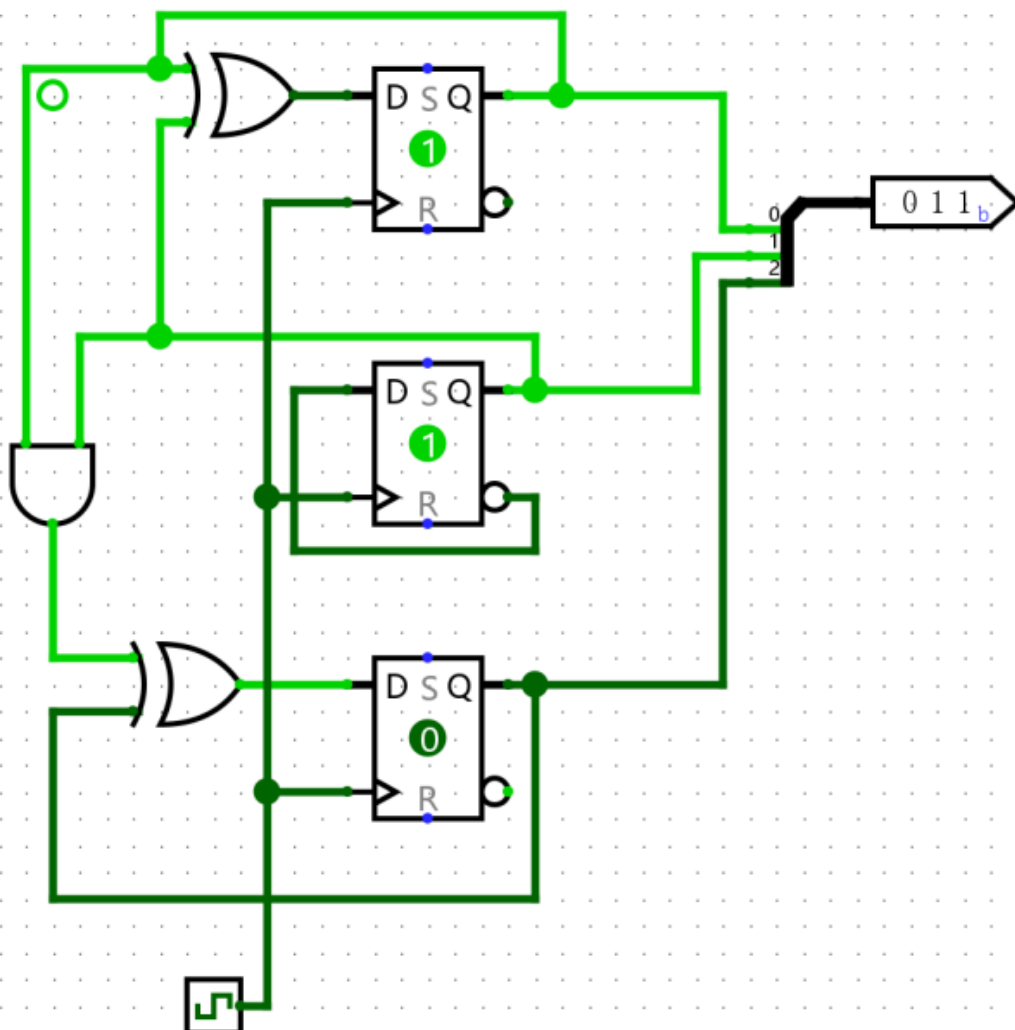
$$P_A = A\bar{B} + A\bar{C} + \bar{A}BC$$

$$P_B = \bar{B}$$

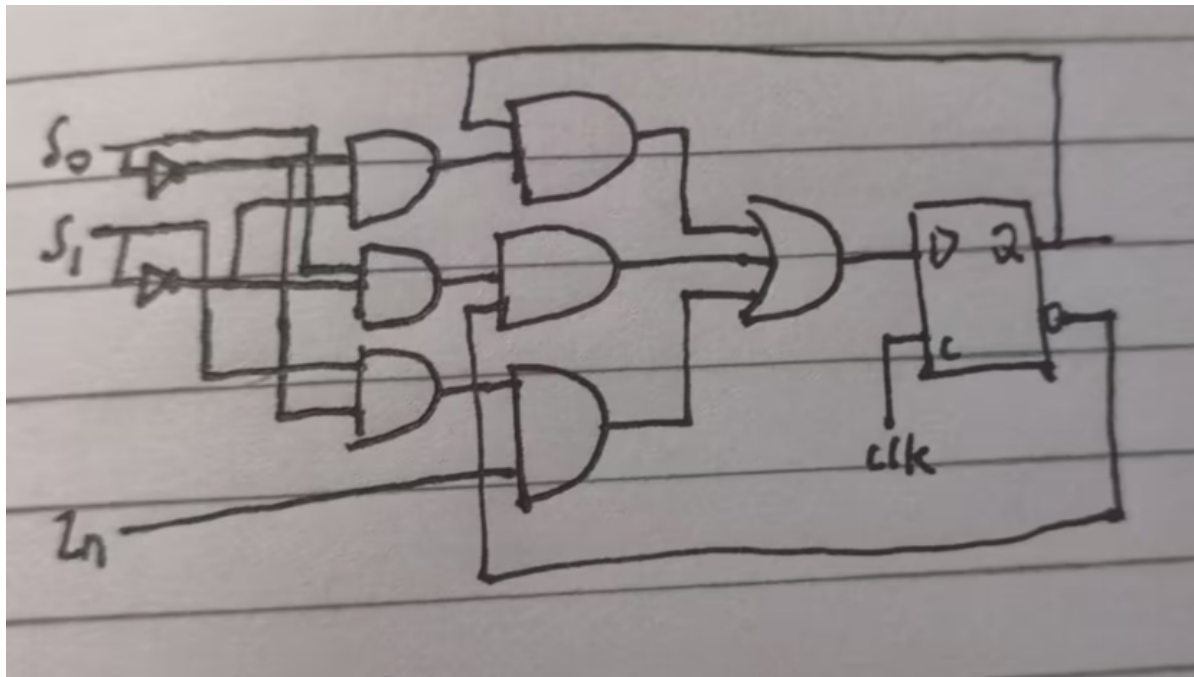
$$D_c = \bar{B}C + BE$$



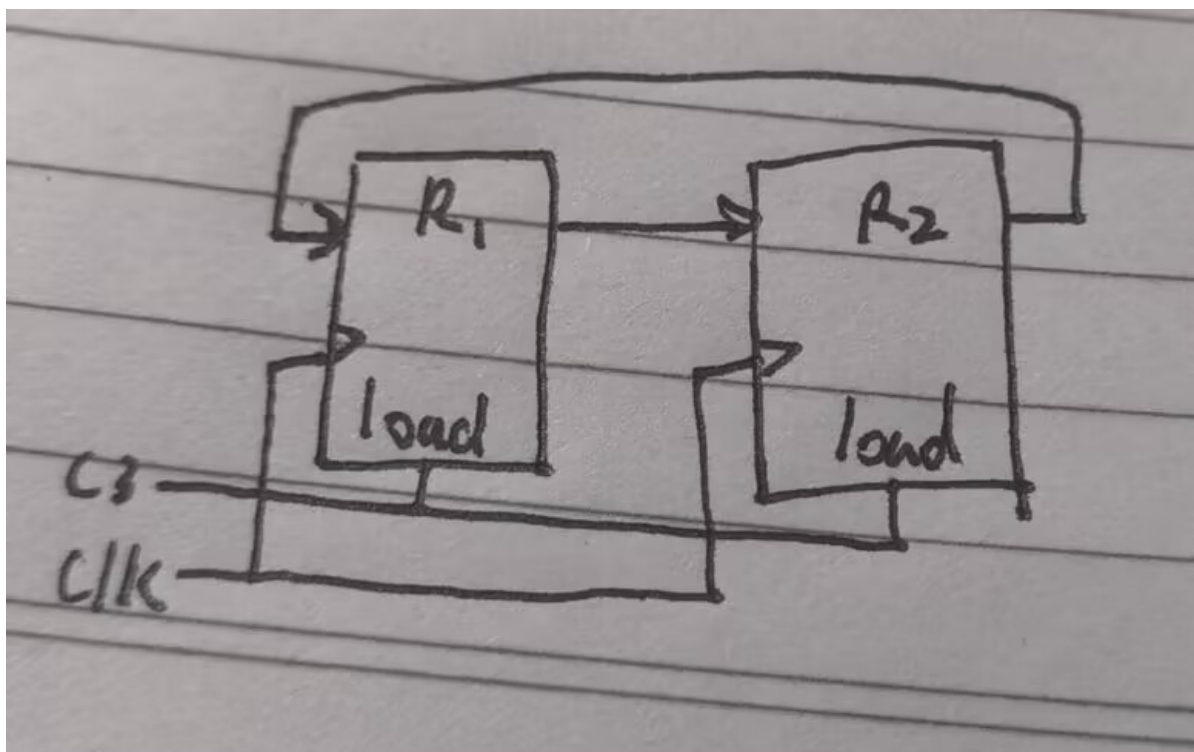
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6-17



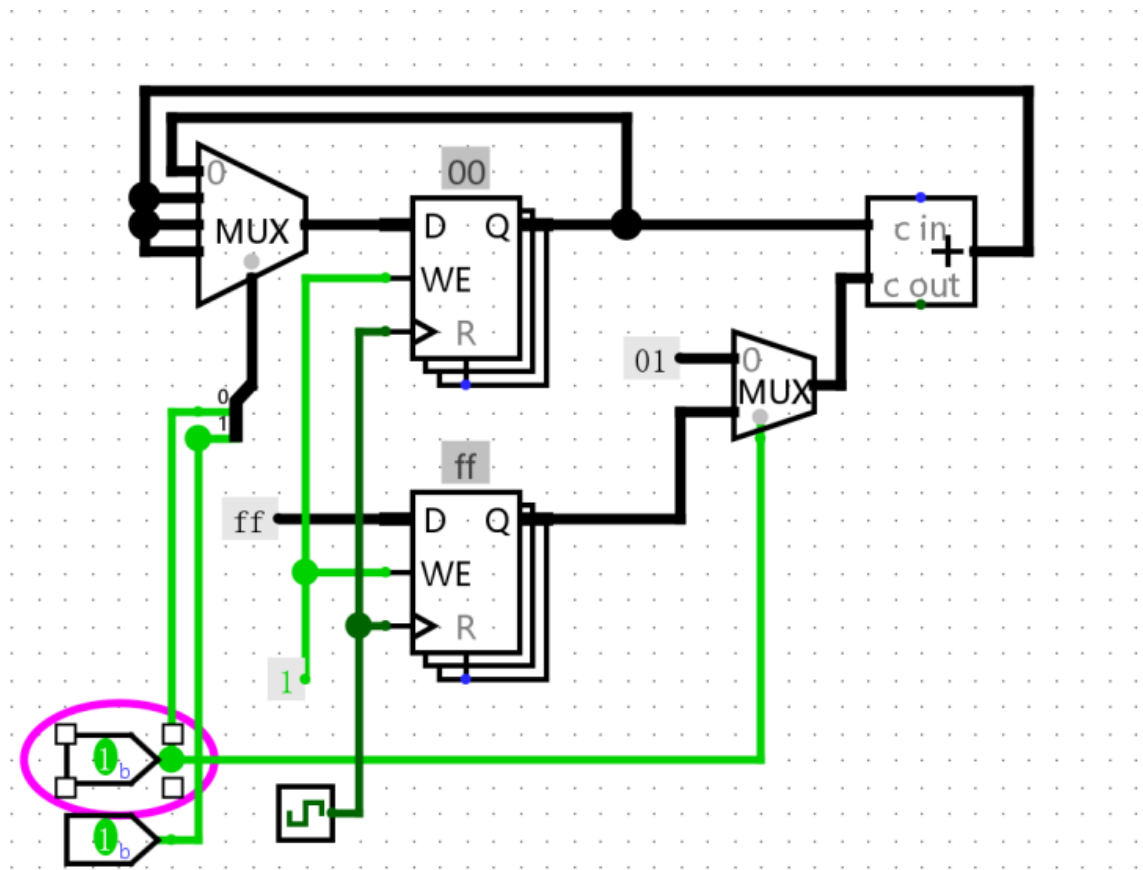
6-19



6-23

$$D = \overline{A}\overline{C_0} + AB + \overline{B}C_1$$

6-27



6-34

0101, 1010, 0101, 1010, 1101, 0110, 0011, 0001, 1000