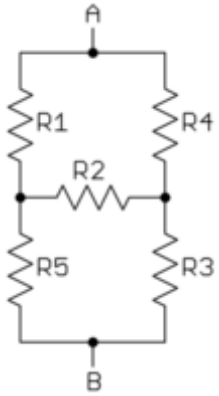
<Code> Quiz

1. Please write the word that contains the longest dash occurrences in a row in Morse code. [5 points]
   For example: GOD = --. --- -.. The number of the longest dash occurrences in a row is 4.

2. Please write the word that contains the longest dot occurrences in a row in Morse code. [5 points]
   Answer:

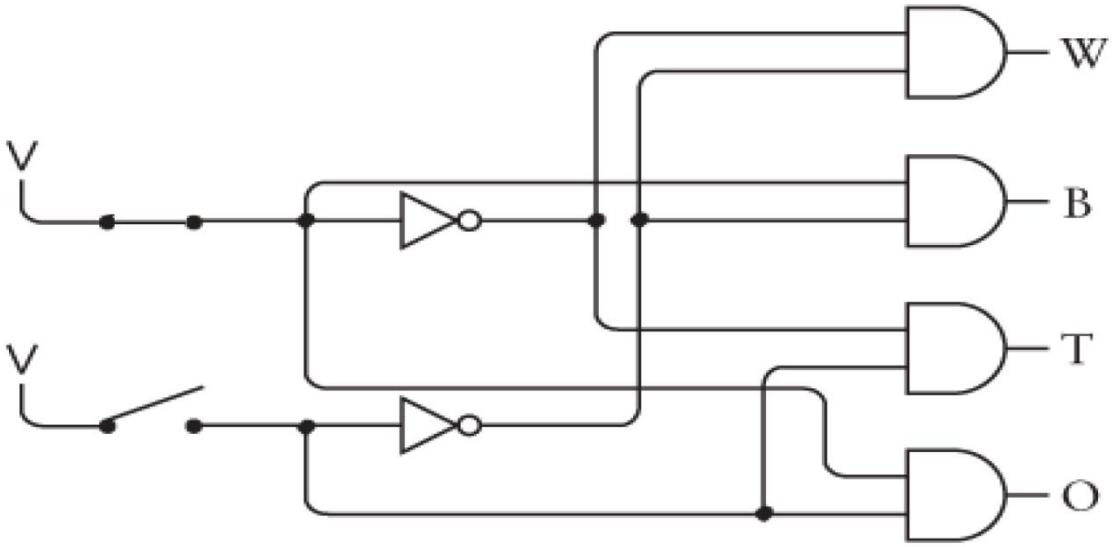
3. Please write a program (in any language you like) to detect the longest occurrences of dash/dot in a row in the Morse code of the given word. [5 points]

4. What is the equivalent resistance between A and B, given R1=100 Ohm, R2=100 Ohm, R3=100 Ohm, R4=200 Ohm and R5 = 200 Ohm [5 points]

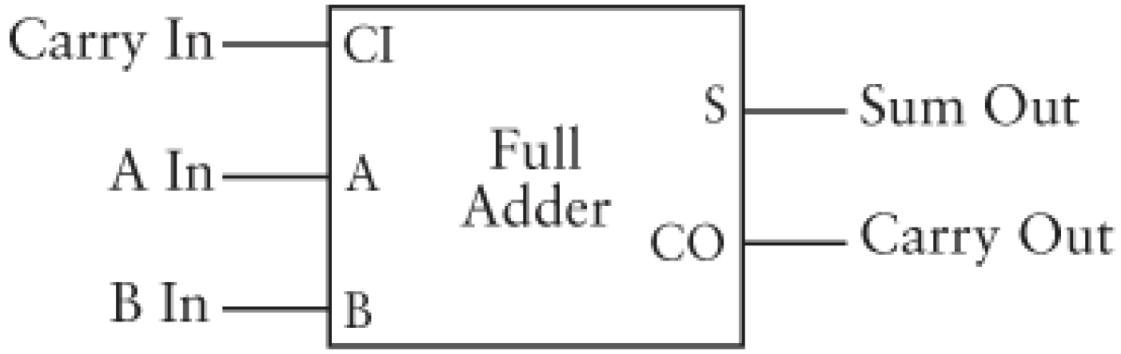


5. What were the first words transmitted by the electric telegraph in 1844? Please translate the whole paragraph where the words from to Chinese. And what the distance between the sender and receiver when these words were transmitted? For how much Professor Morse sold his telegraph patent to the U.S. government and what is the net present value of that money? [2 points]
6. If a dog is trained to carry three 8mm cassette tapes running in a speed of 18km/s from A to B, each tap contains 7GB data, at what distance that the dog data transporting speed is 54Mb/s? [2 points]
7. Translate the barcode below

8. $(626.2)_{10}=(\quad)_3$ （Roundup to the forth place） [2 points]
9. What are the symbols for AND OR NOR NAND EXOR EXNOR logic gates? Please also writhe down their truth table. [2 points]
10. What is the output of the circuit? [2 points]

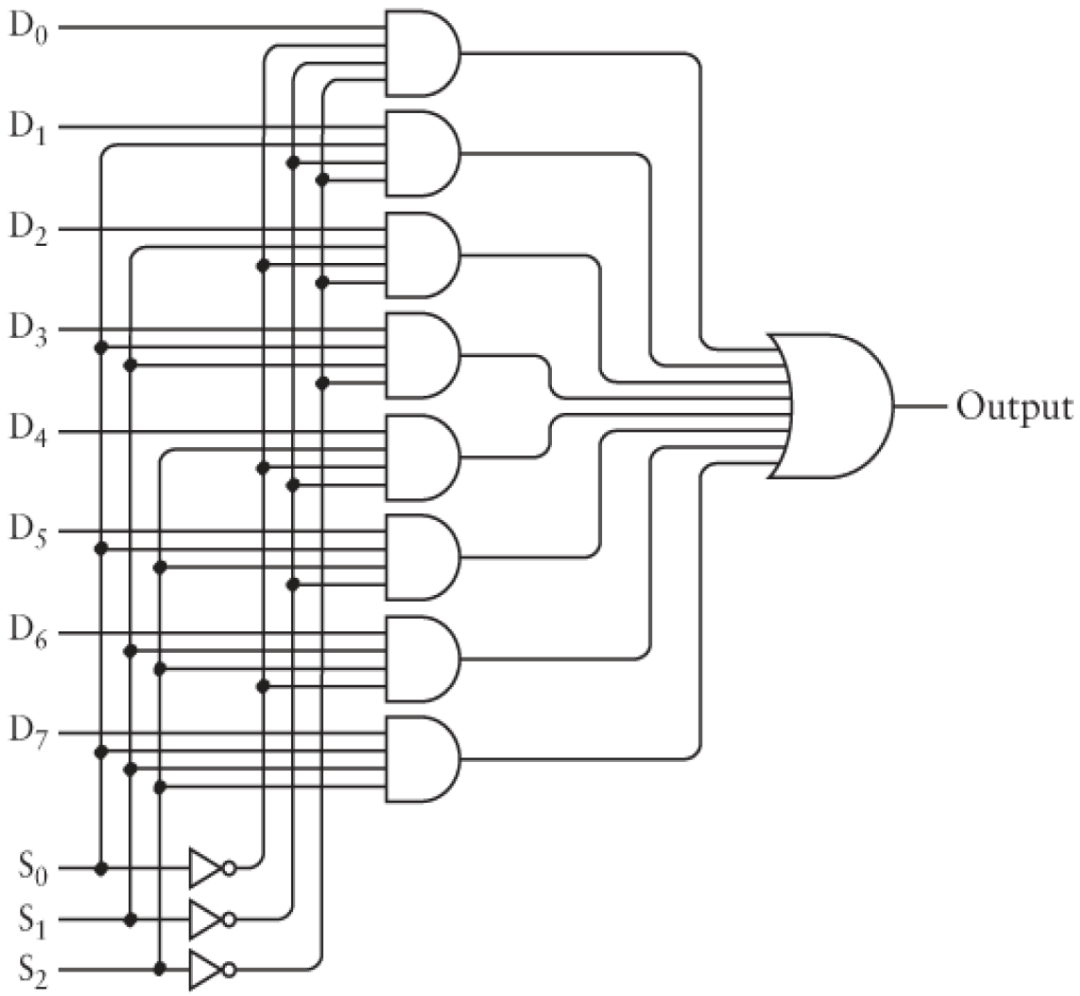


11. Please complete the truth table for the 'full adder'[2 points]

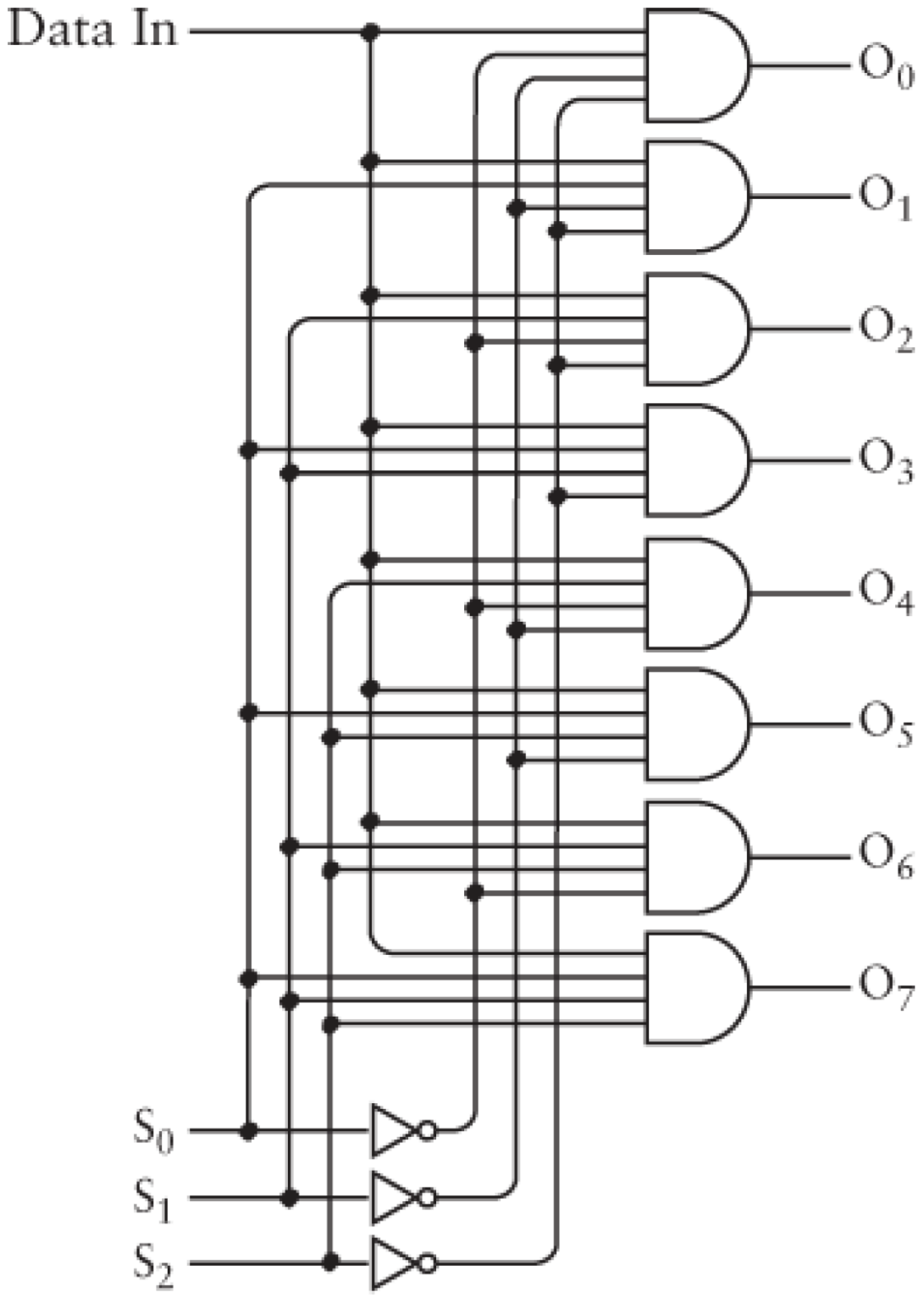


A In	B In	Carry In	Sum Out	Carry Out

12. At least how many digits are required in binary number to represent a decimal number with 4 digits? [2 points]
13. When $S_0 = 1, S_1 = 0, S_2 = 1$, the output equals to which data in? [2 points]



14. When $S_0 = 1, S_1 = 0, S_2 = 1$, which data output equals to the data in? [2 points]


Data In
O0
O1
O2
O3
O4
O5
O6
O7
S0
S1
S2