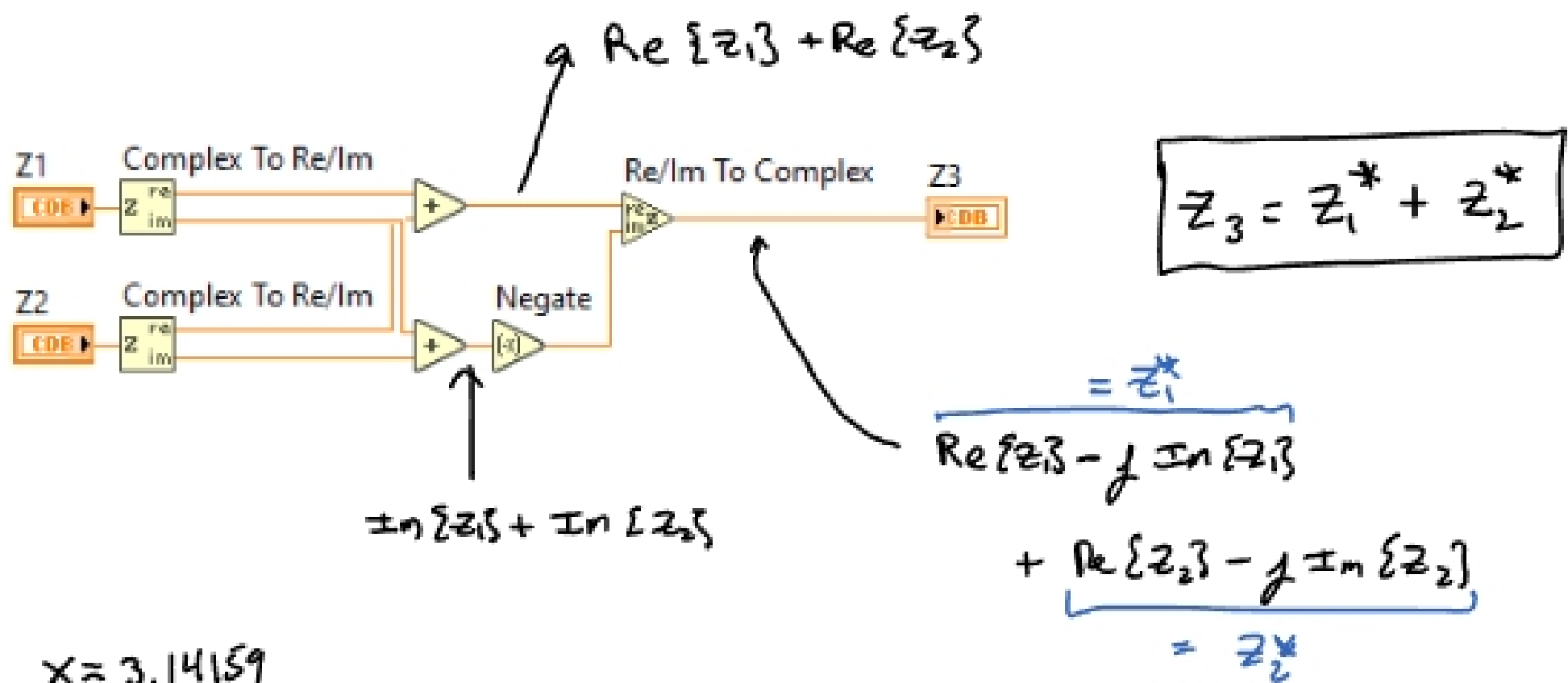


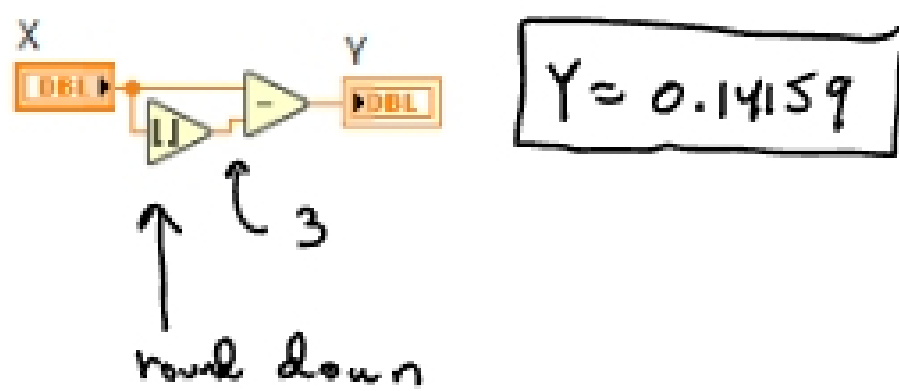
Problem 5:

1.

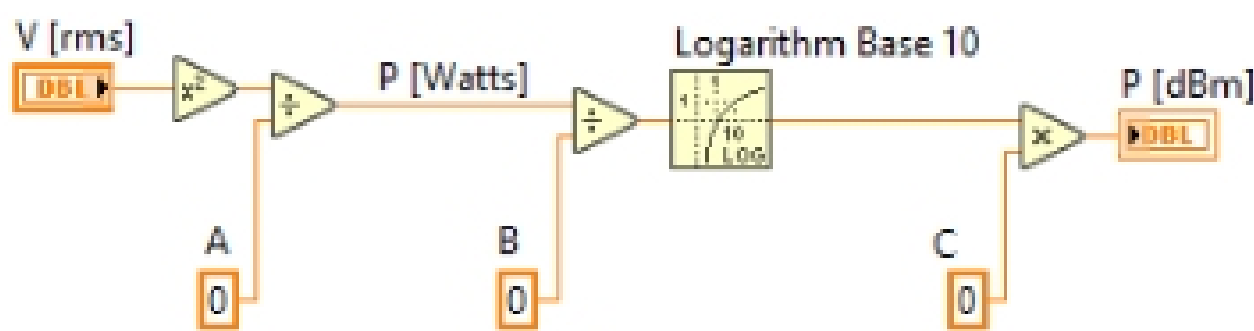


2.

$x = 3.14159$



3.



From the problem statement

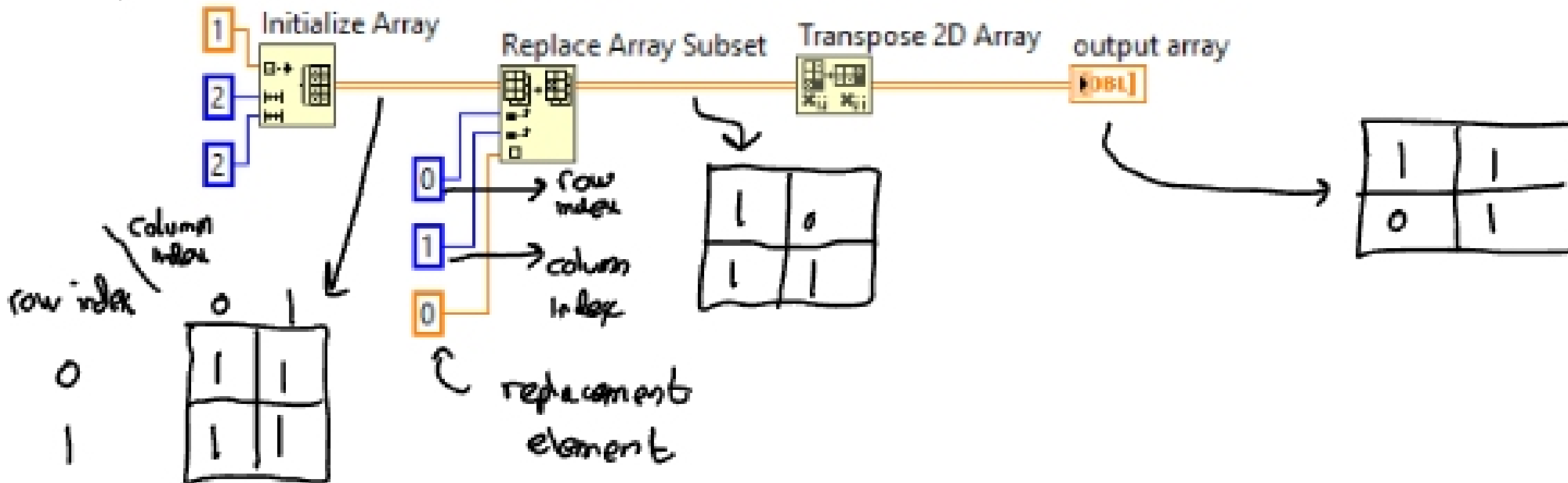
$$P [\text{dBm}] = 10 \log_{10} \frac{P [\text{watts}]}{1 \text{ mW}} = 10 \log_{10} \left\{ \frac{(V_{\text{RMS}})^2}{50} \right\} \leftarrow P [\text{watts}]$$

By inspection

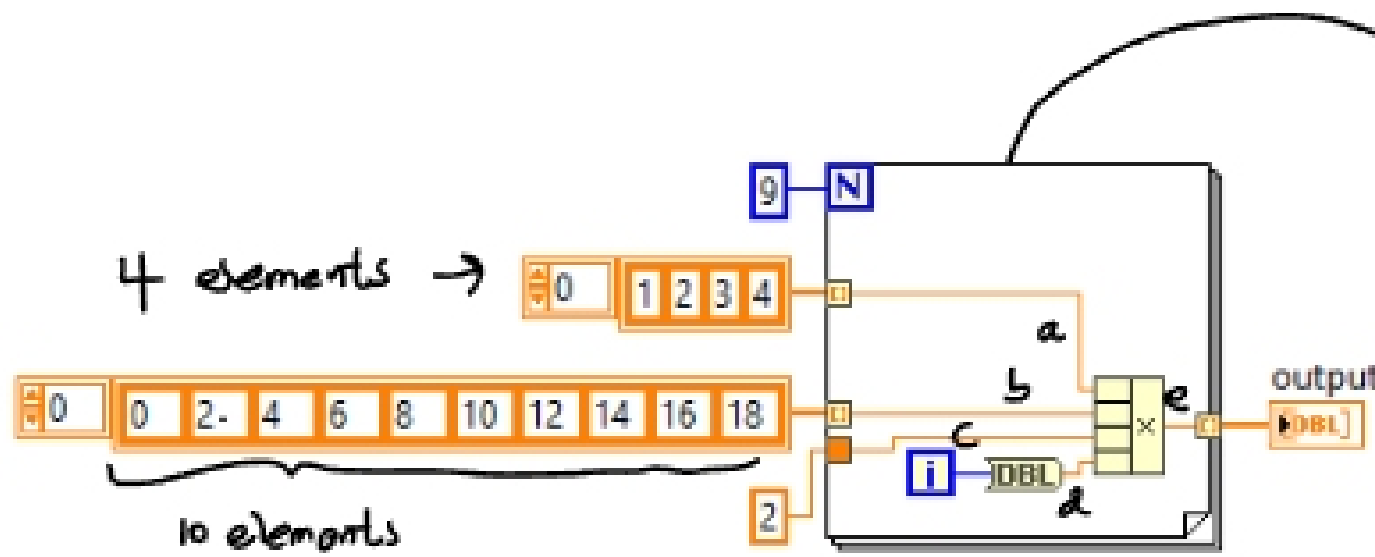
$A = 50, B = .001, C = 10$

Problem 6

1.

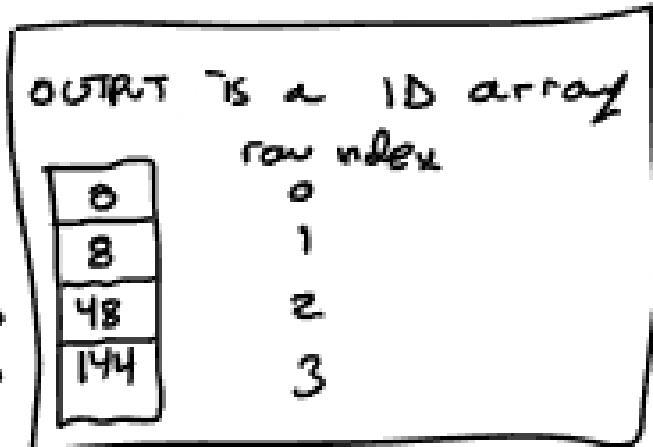


2.

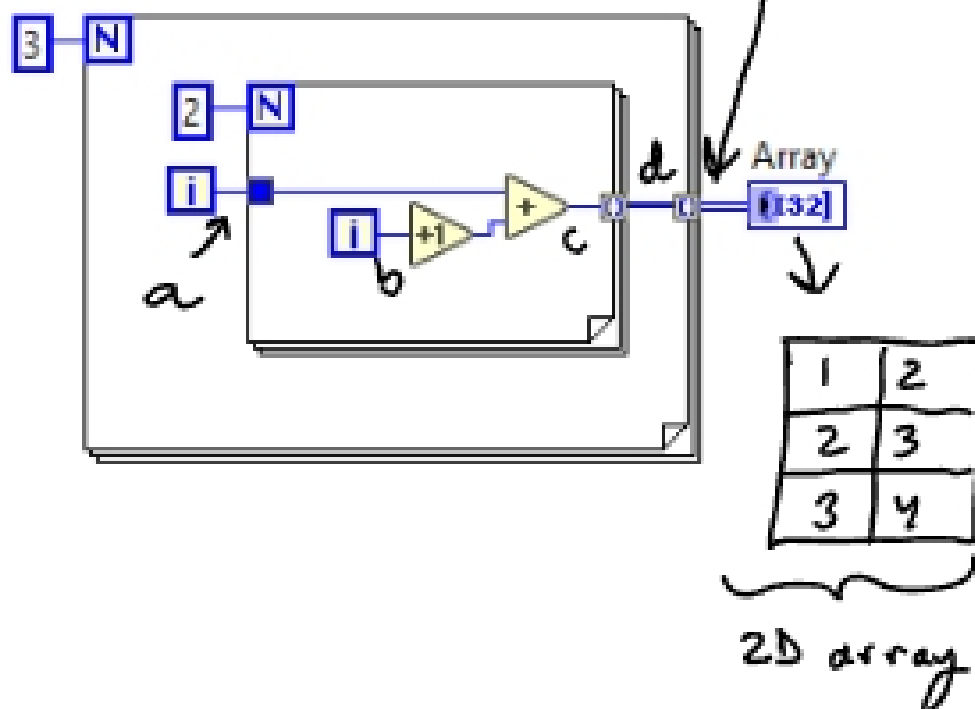


The number of times the For loop can iterate is limited to four by the size of the smaller 1D array.

Iteration	a	b	c	d	e
1	1	0	2	0	0
2	2	2	2	1	8
3	3	4	2	2	48
4	4	6	2	3	144



3. Each iteration of the outer loop adds one row to the 2D array



First iteration of the outer loop,  $a=0$

b	c
0	1
1	2

two iterations of inner loop

Second iteration of the outer loop,  $a=1$

b	c
0	2
1	3

two iterations of inner loop

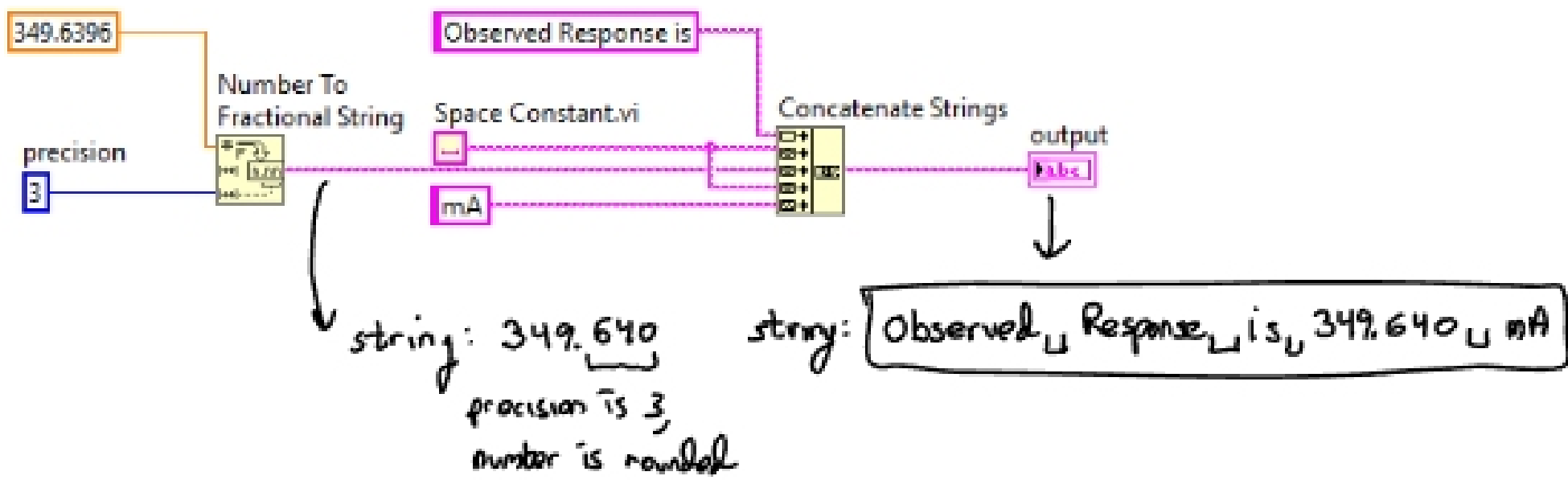
Third iteration of outer loop,  $a=2$

b	c
0	3
1	4

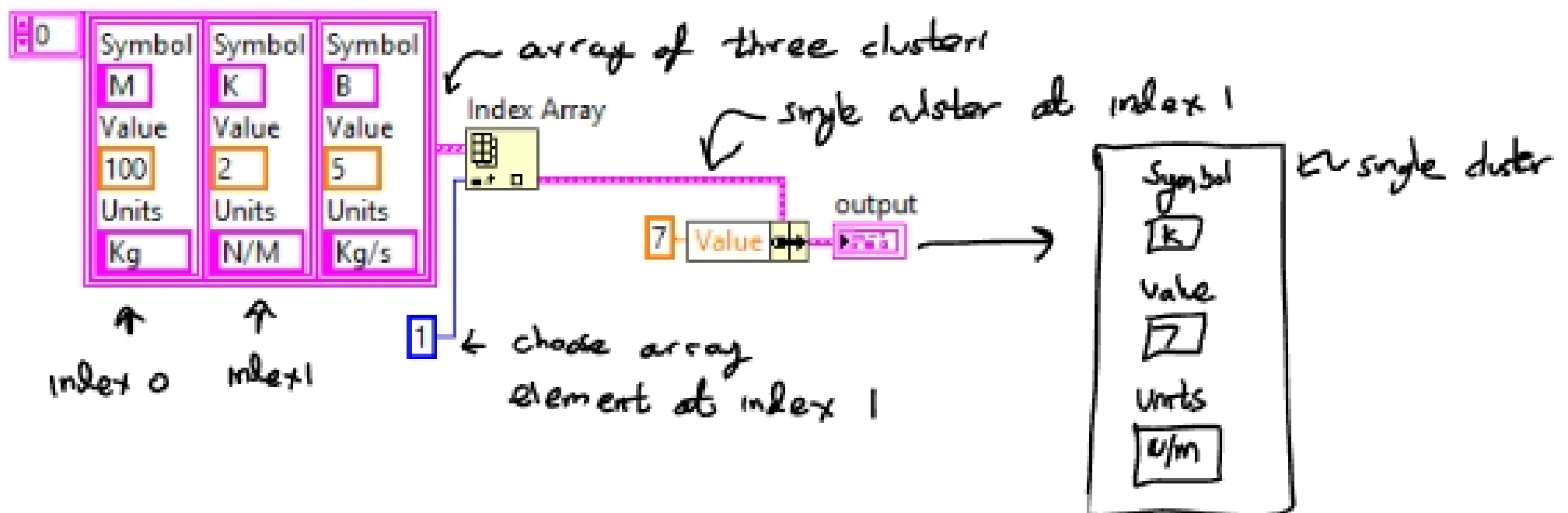
Two iterations of inner loop

Problem 7

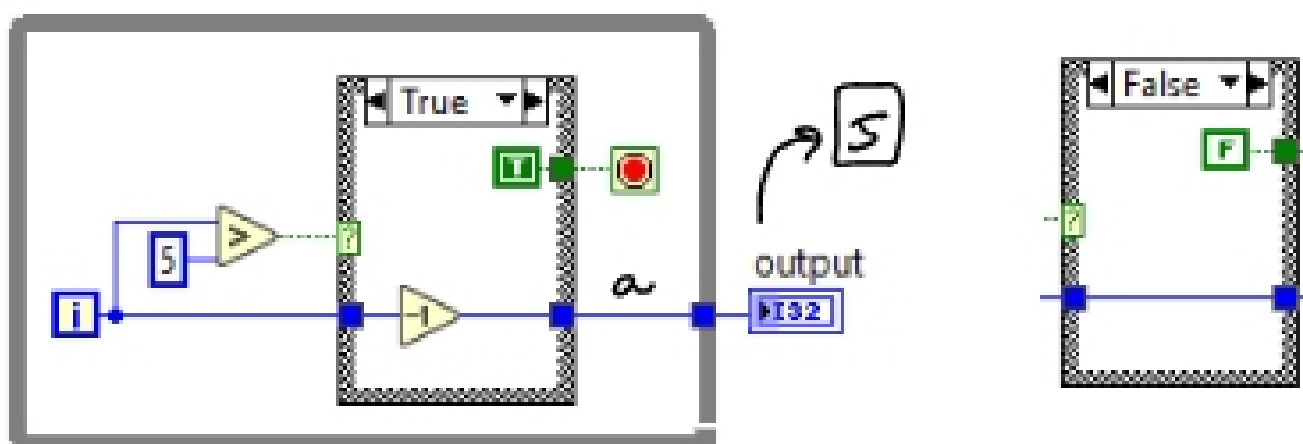
1.



2.



3.



- The While Loop iterates seven times,  $i = 0, 1, 2, 3, 4, 5, 6$
- As  $i = 6$  is greater than 5, the loop stops iterating when  $i = 6$
- The last value of  $a$  is  $i = 6 - 1 = 5$ .