QUESTION 1 ENQUEUE

front = 0
size = 0
len = 10

Should insert at: (front + size) % len
0 + 0 % 10 = 0

None	None	None	None	None	None	None	None	None	None

front = 5
size = 8
len = 10

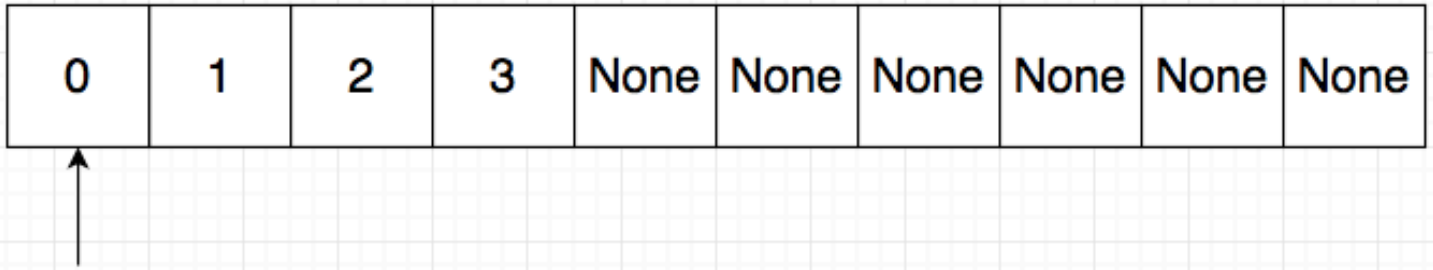
Should insert at: (front + size) % len
5 + 8 % 10 = 3

10	11	12	None	None	5	6	7	8	9

QUESTION 1 DEQUEUE

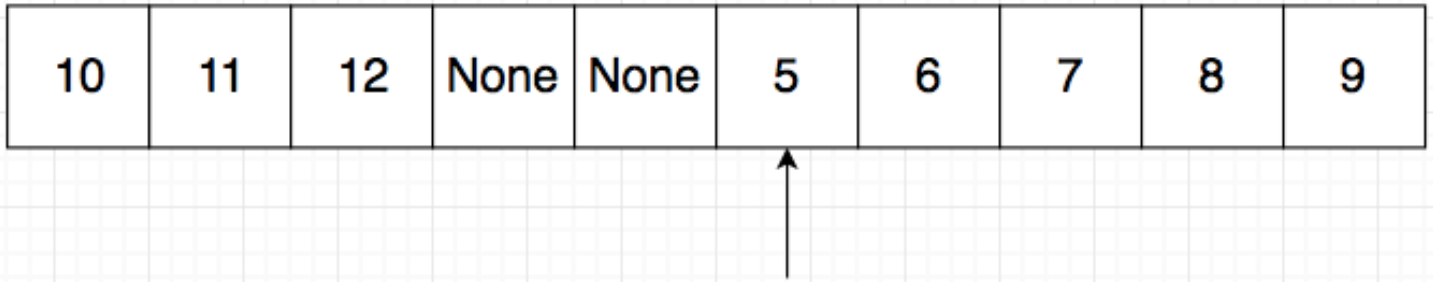
front = 0
size = 4
len = 10

Should remove at: front
0

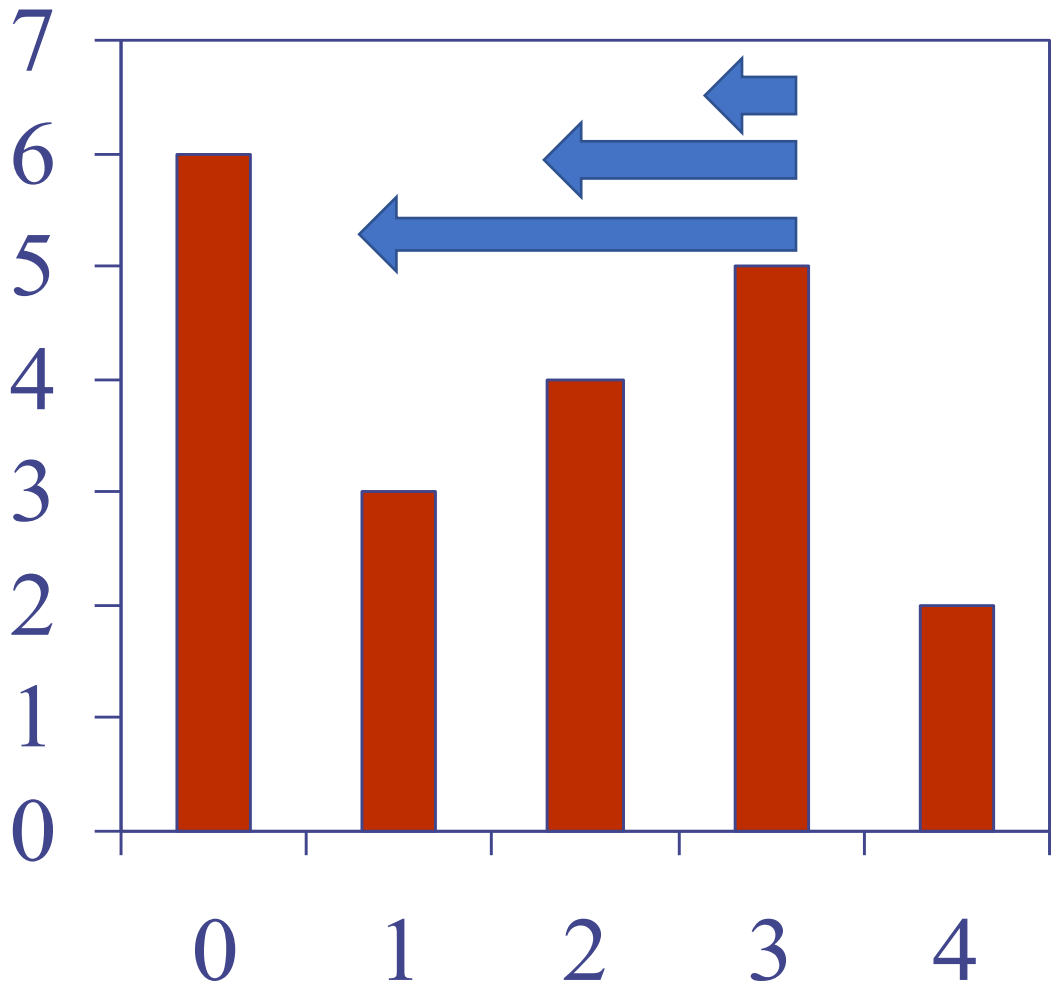


front = 5
size = 8
len = 10

Should remove at: front
5

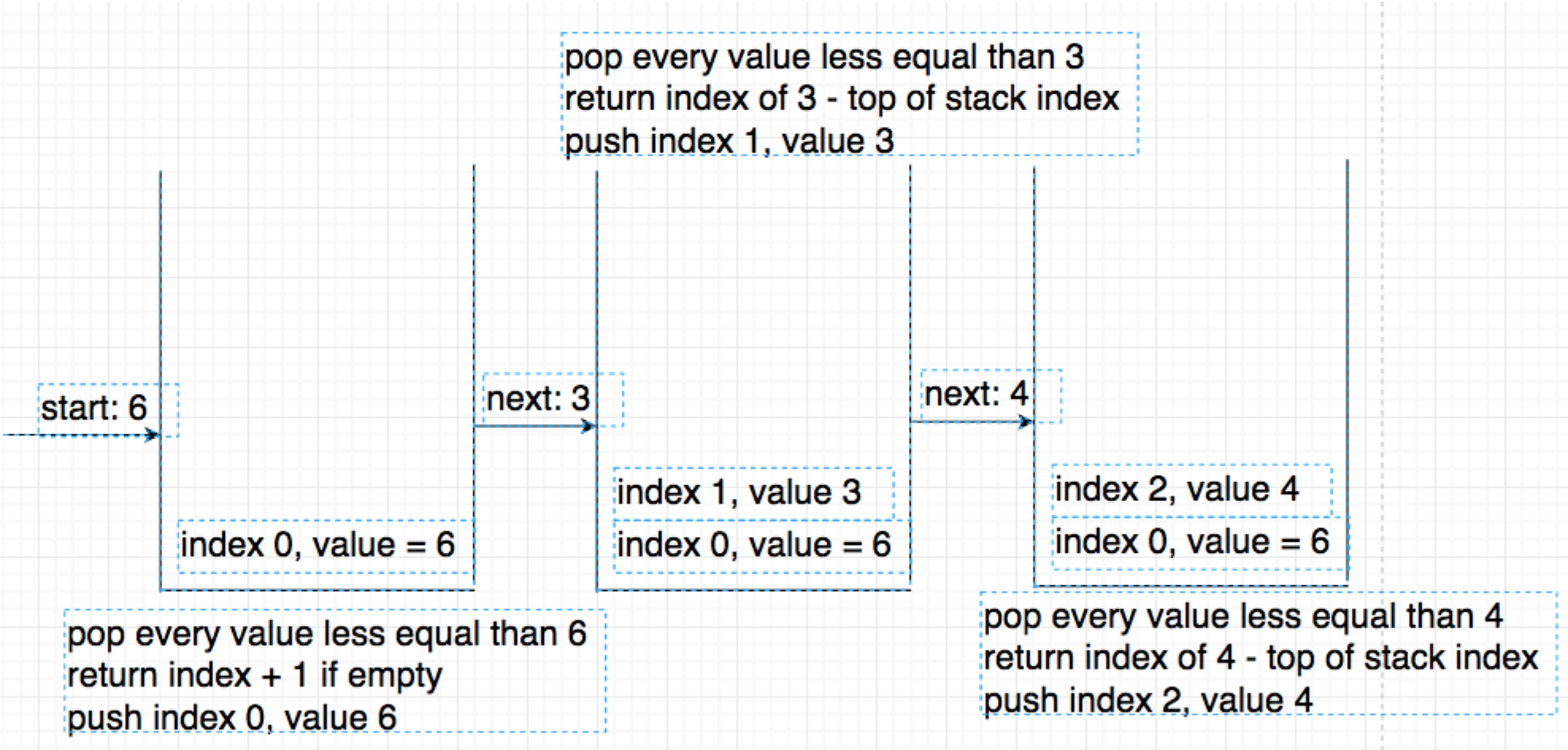


Question 2 Computing spans



For each index, look back

Index – 1
Index – 2
Index – 3 …
Until we encounter a value that is greater.


pop every value less equal than 3
return index of 3 - top of stack index
push index 1, value 3
start: 6
next: 3
next: 4
index 1, value 3
index 0, value = 6
index 2, value 4
index 0, value = 6
index 0, value = 6
pop every value less equal than 6
return index + 1 if empty
push index 0, value 6
pop every value less equal than 4
return index of 4 - top of stack index
push index 2, value 4

QUESTION 3 DOUBLE ENDED QUEUE

- add_last is same as enqueue
- delete_first is same as dequeue
- add_first, delete_last need to figure out correct indexes.

Question 4 Evaluate arithmetic expressions