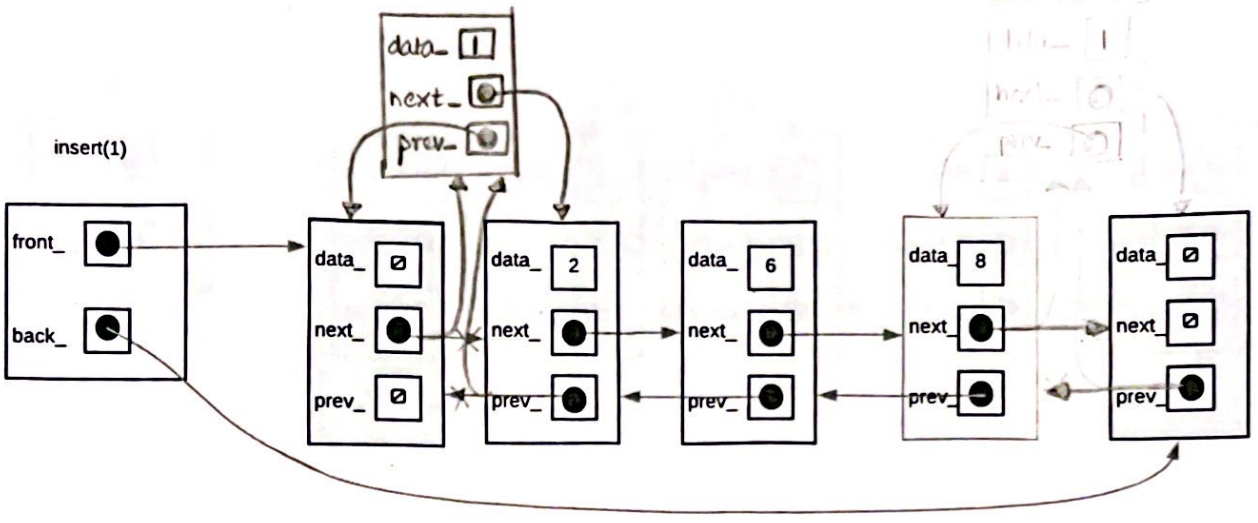
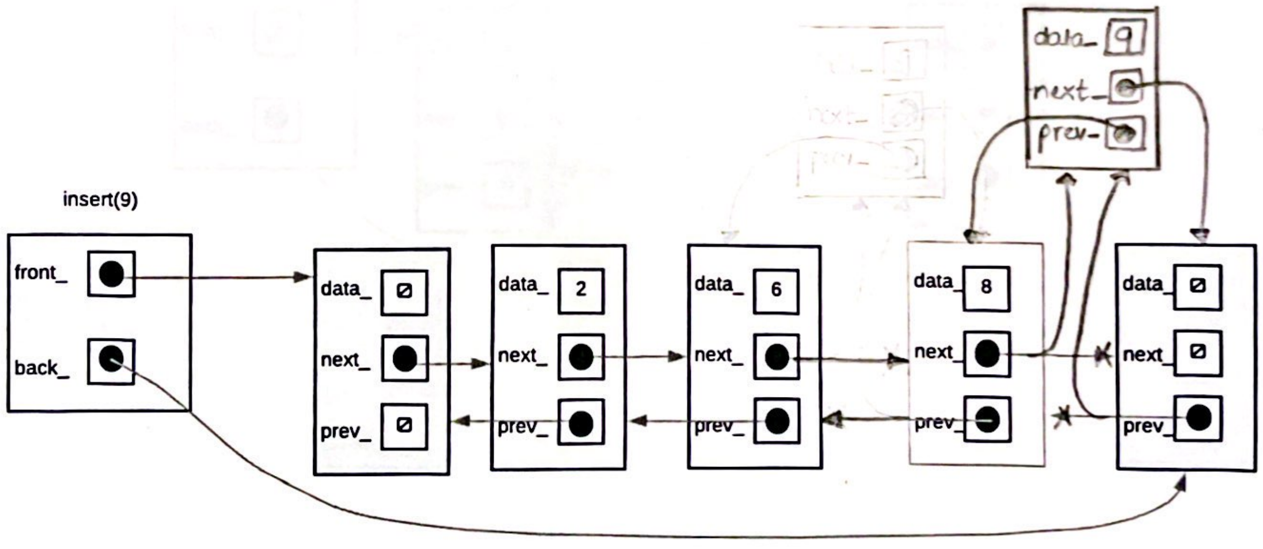
SENTINEL

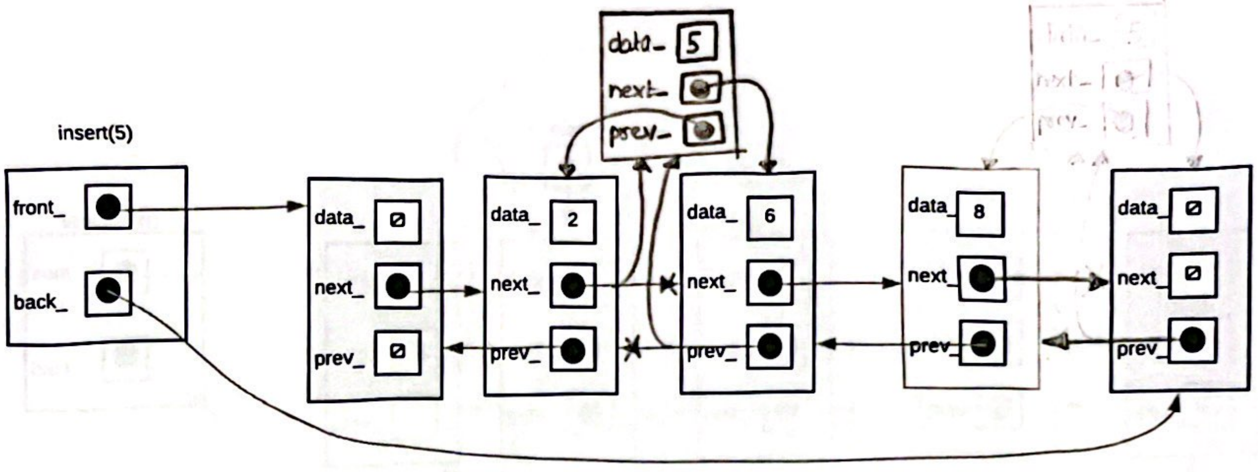
insert(1)



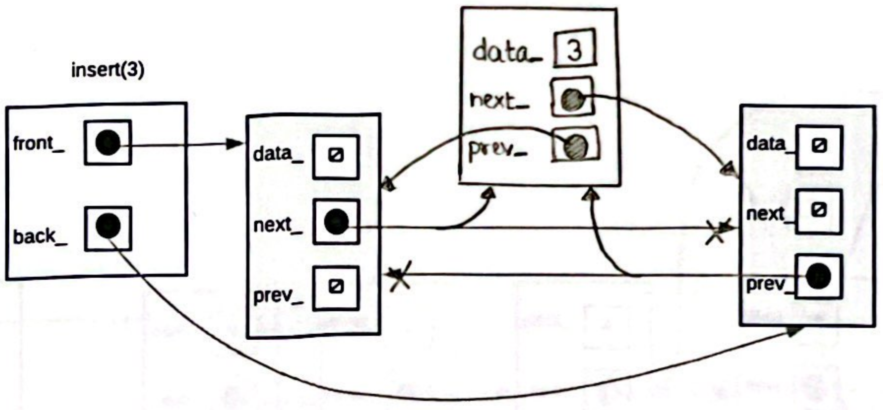
insert(9)



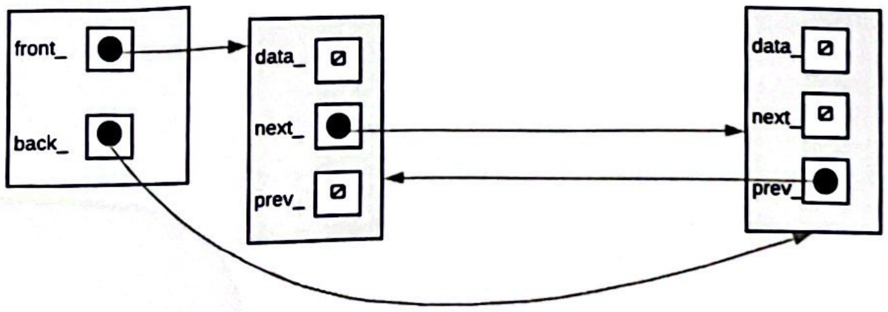
insert(5)

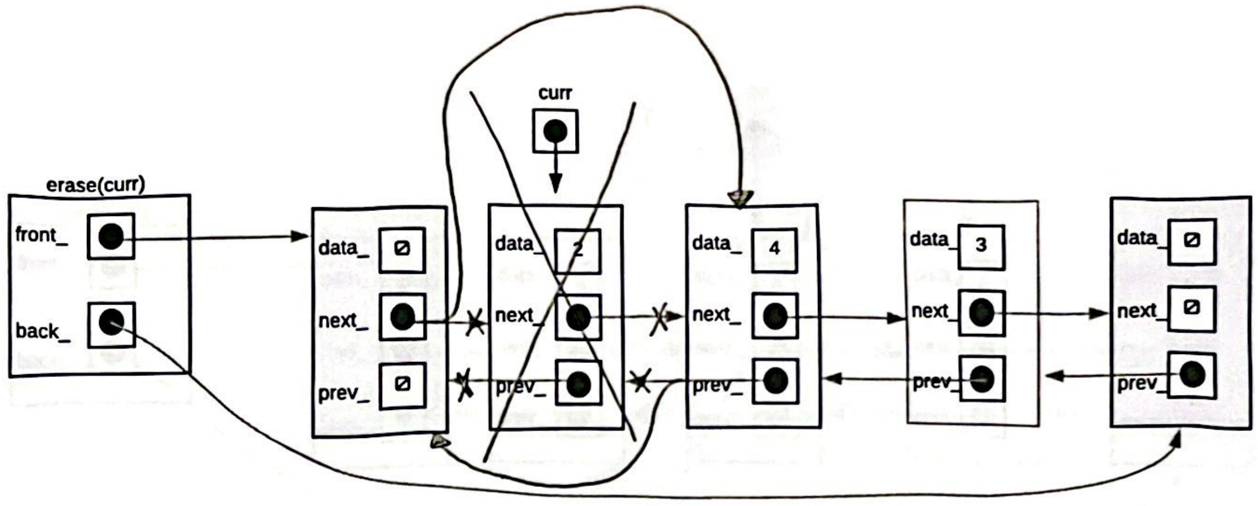


insert(3)

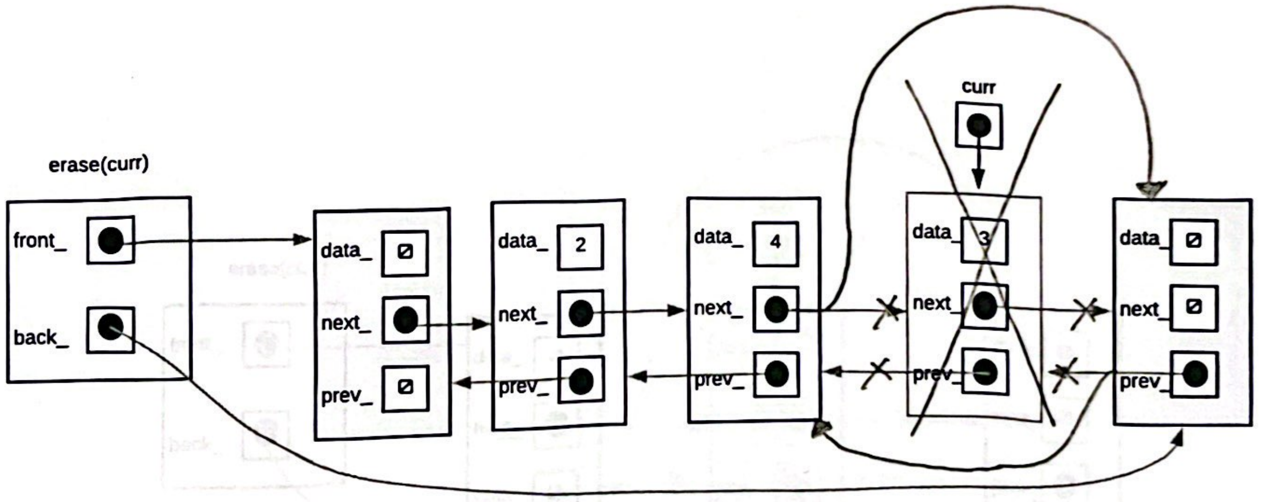


erase(None)

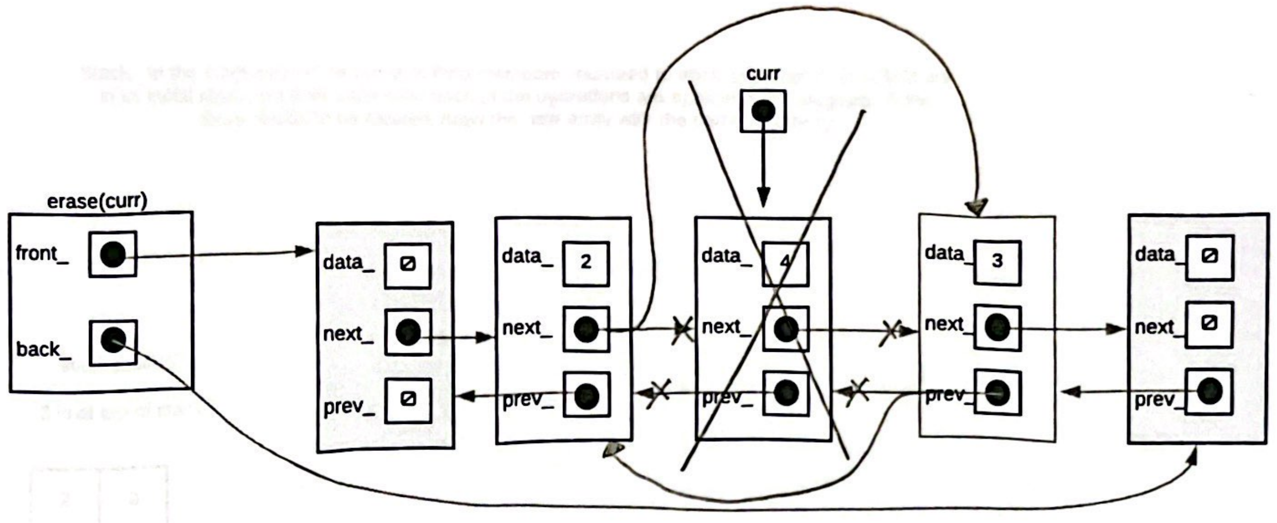


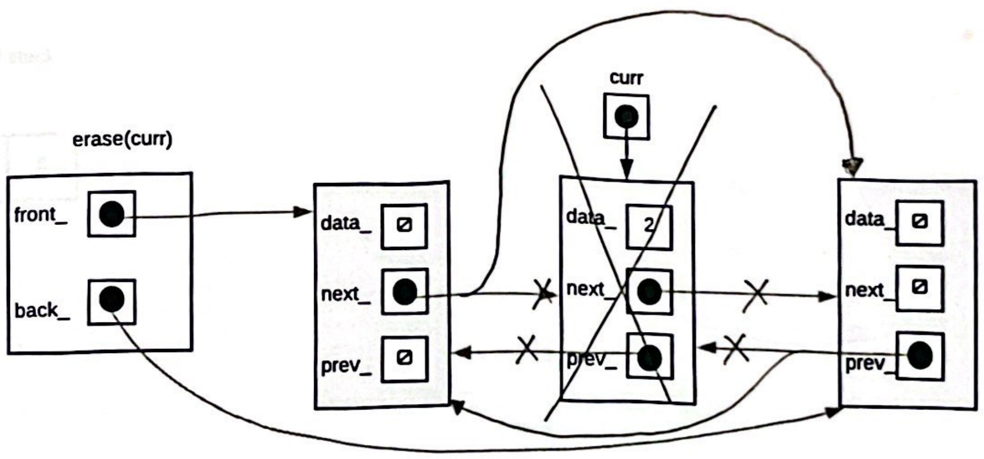


erase(curr)
front_
back_
curr
data_
next_
prev_
Ø
2
4
3



erase(curr)
front_
back_
curr
data_
next_
prev_
Ø
2
4
3

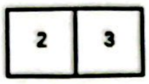

erase(curr)
front_
back_
curr
data_
next_
prev_
Ø
2
4
3


erase(curr)
front_
back_
curr
data_
next_
prev_
Ø
2

Stack: In the diagrams below list what data members you need to track and what their values are in its initial state and their state after each of the operations are applied to the diagram. If the array needs to be resized, draw the new array with the correct capacity

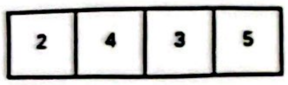
stack.push(6)

3 is at top of stack



stack.pop()
stack.pop()
stack.push(6)

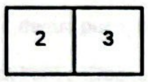
initially 5 is at top of stack



Queues: In the diagrams below list what data members you need to track and what their values are in its initial state and their state after each of the operations are applied to the diagram. If the array needs to be resized, draw the new array with the correct capacity

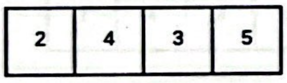
queue.enqueue(6)

2 is at front of queue, 3 is at back



queue.dequeue()
queue.dequeue()
queue.enqueue(6)

initially 2 is at front of queue, 5 is at back



Deques: In the diagrams below list what data members you need to track and what their values are in its initial state and their state after each of the operations are applied to the diagram. If the array needs to be resized, draw the new array with the correct capacity

deque.push_front(6)

2 is at front of Deque, 3 is at back

2	3

deque.push_back(6)

2 is at front of Deque, 3 is at back

2	3

deque.pop_back()
deque.push_front(6)

initially 2 is at front of deque, 5 is at back

2	4	3	5

deque.pop_front()
deque.push_back(6)
deque.pop_front()
deque.push_back(7)

initially 2 is at front of deque,
5 is at back

2	4	3	5

overflow(grid,the_queue) - apply the overflow function to the gride below and show all the grids the function would add to the queue. Number the grid in the order they are added to the queue. Also state the return value. Note that some grids may remain empty

-2	1	-3	-3	0
2	0	3	2	0
0	0	-3	0	0
0	0	1	0	0

Overflowing :(0,0), (0,2), (0,3), (1, 2)

0	0	0	0	-2
3	1	0	3	0
0	-1	-2	1	0
0	0	1	0	0

overflows : (0,4) , (1,0), (1,3)

0	0	0	0	0
4	2	0	0	1
0	-1	-2	1	0
0	0	1	0	0

overflows : (1,0) (2,1), (1,4)

0	0	0	0	0
1	0	0	0	0
1	0	-1	1	1
0	0	1	0	0

overflows : None

Return value :3

