DSA456V1A

Assignment 1 Part 2 Drawings

Student: Chungon Tse
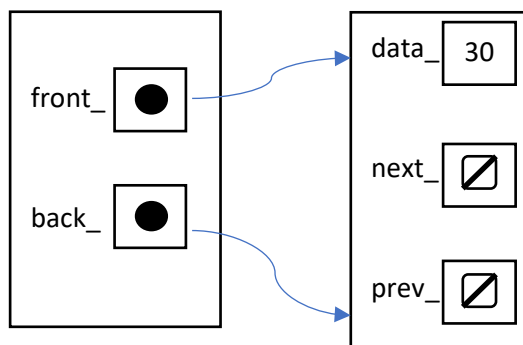
ID: 154928188

Date: 1 Mar 2023
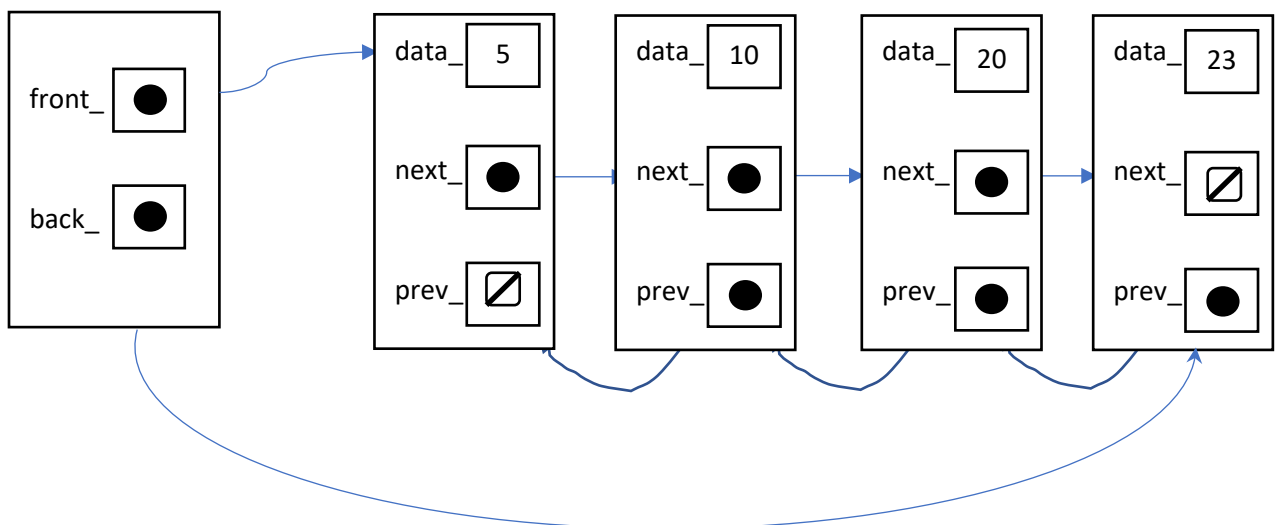
Insert function
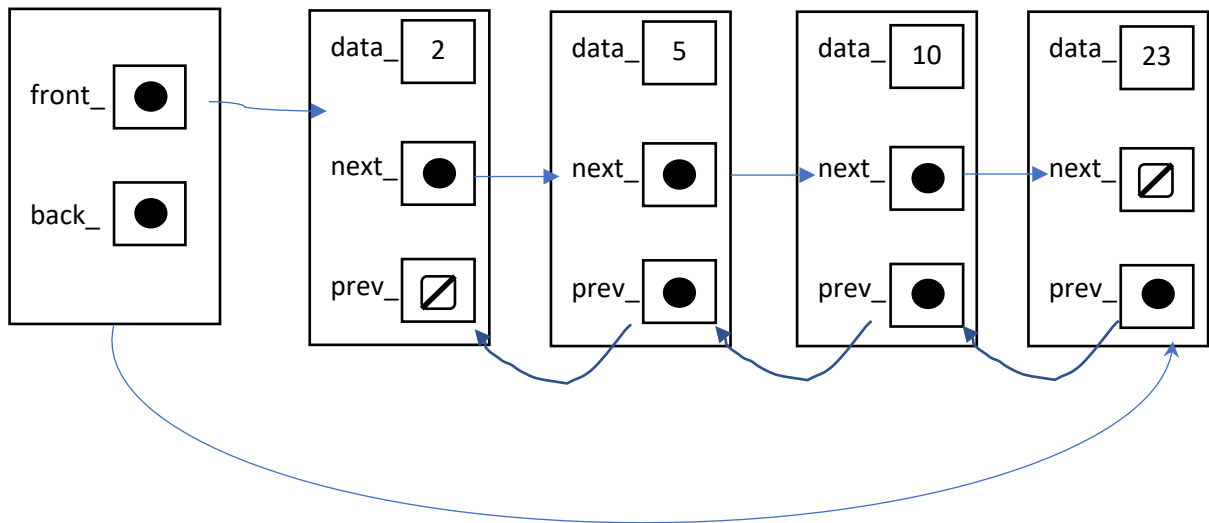
Q1

insert(30)

data_ 30

next_

prev_

front_

back_

Q2

insert(20)

front_

back_

data_ 5

next_

prev_

data_ 10

next_

prev_

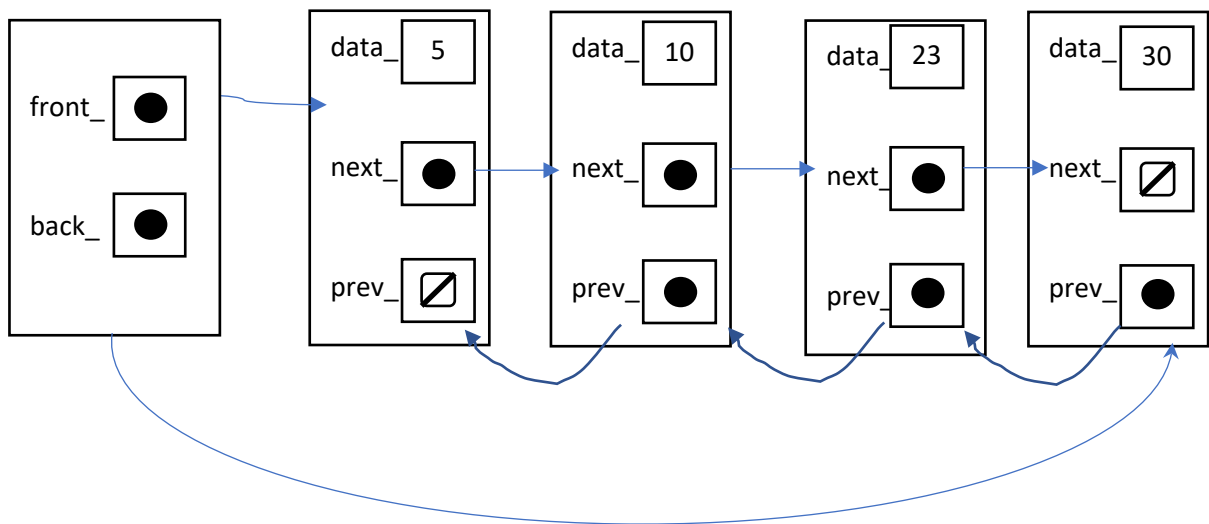data_ 20

next_

prev_
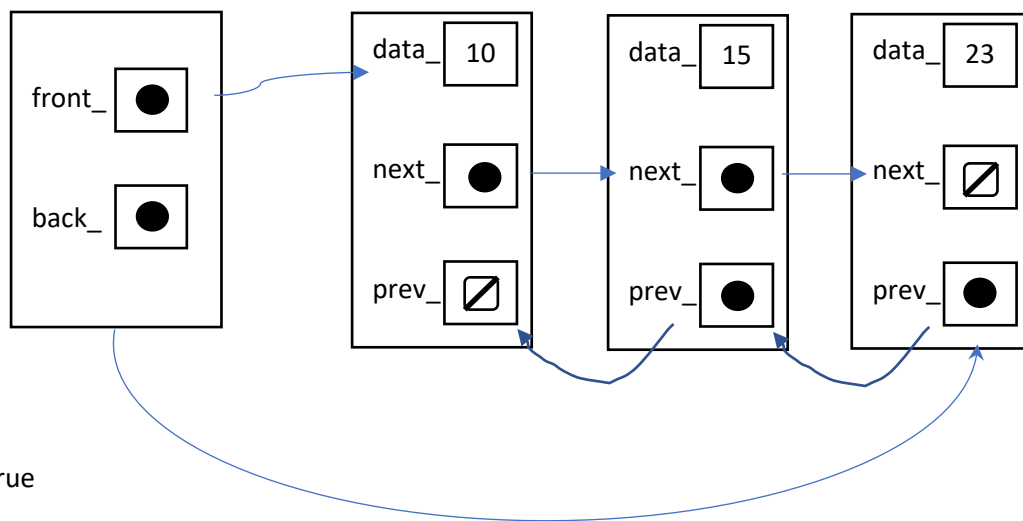
data_ 23

next_

prev_

Q3

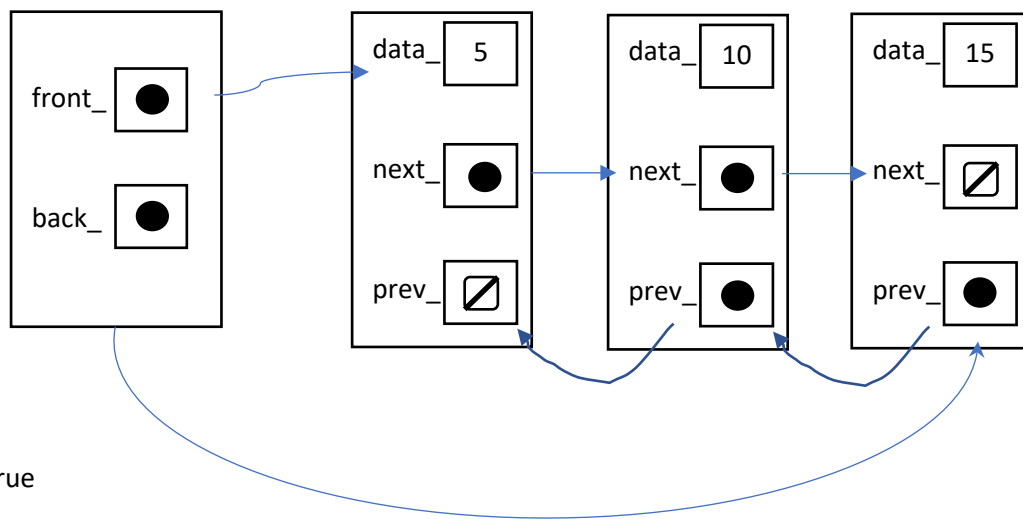insert(2)

Q4

insert(30)

remove function

Q1

remove(8)

return True
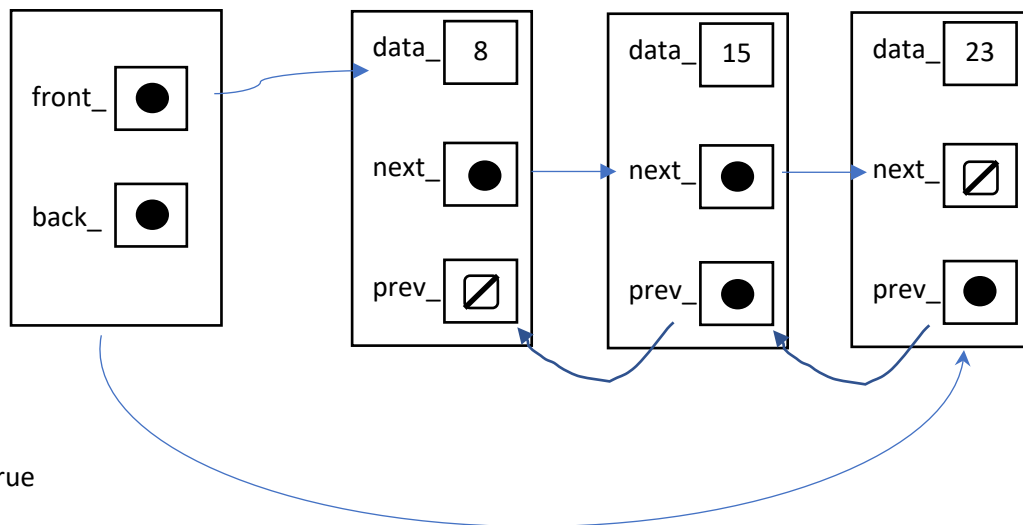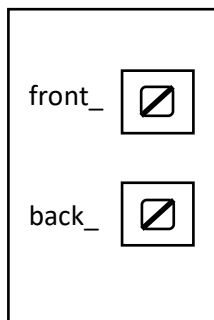
Q2

remove(23)

return True
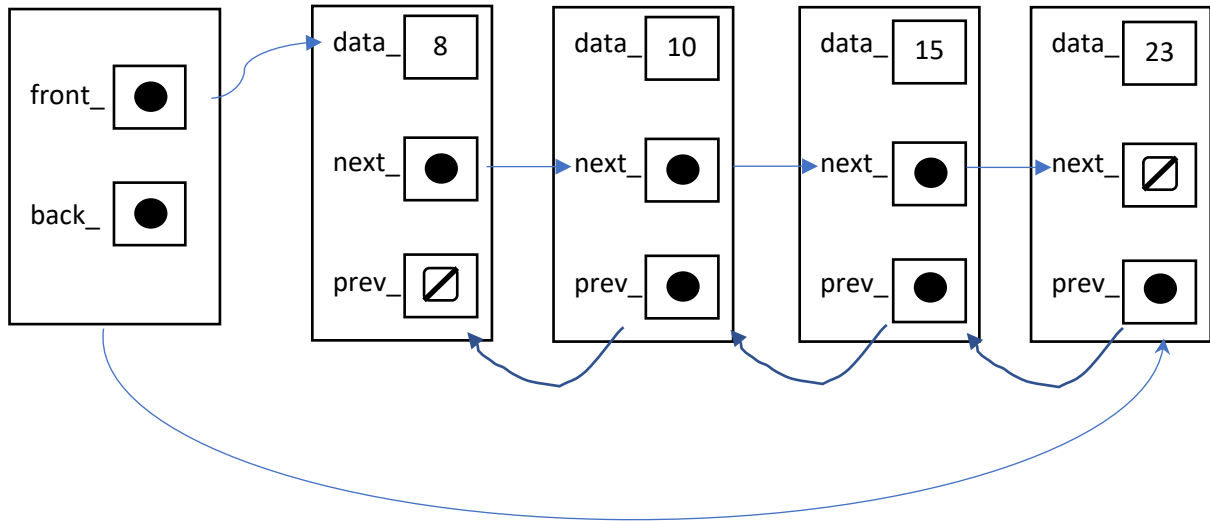
Q3

remove(10)

return True

Q4

remove(8)

return True

Q5

remove(18)

return False
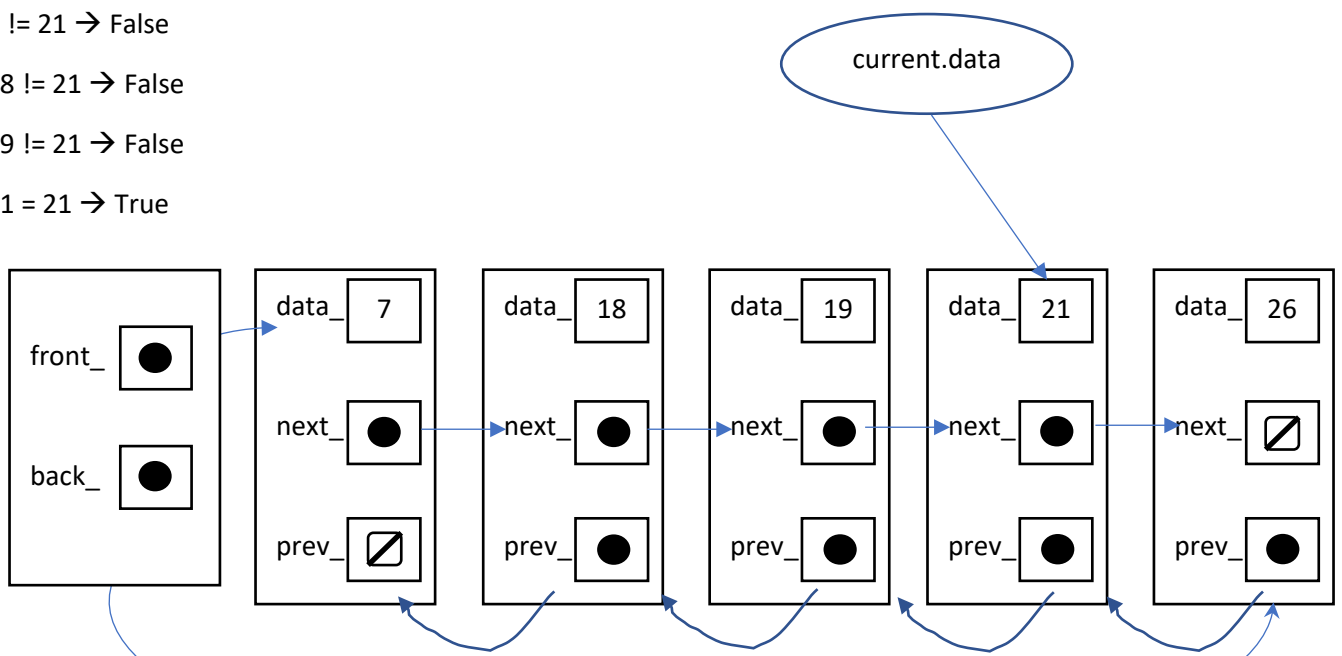
is_present function

Q1

is_present(21)

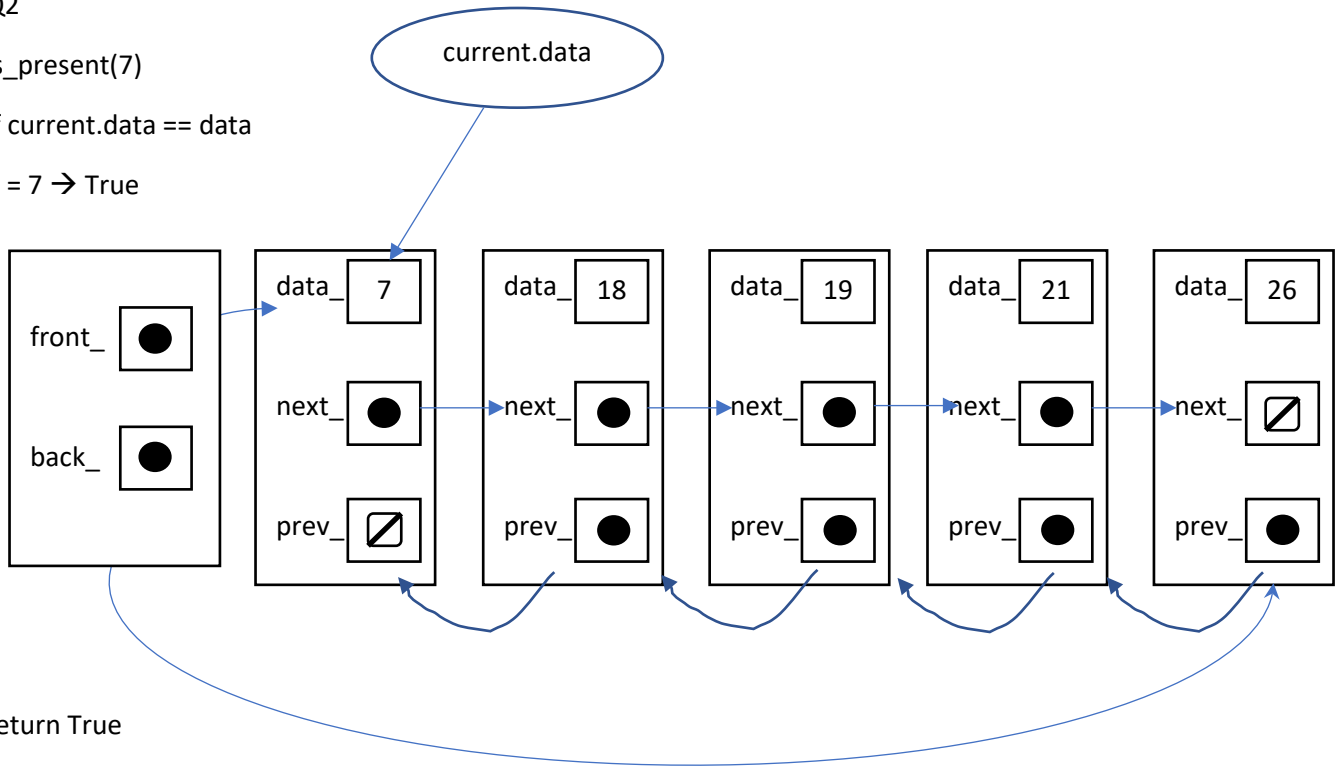if current.data == data

7 != 21 → False
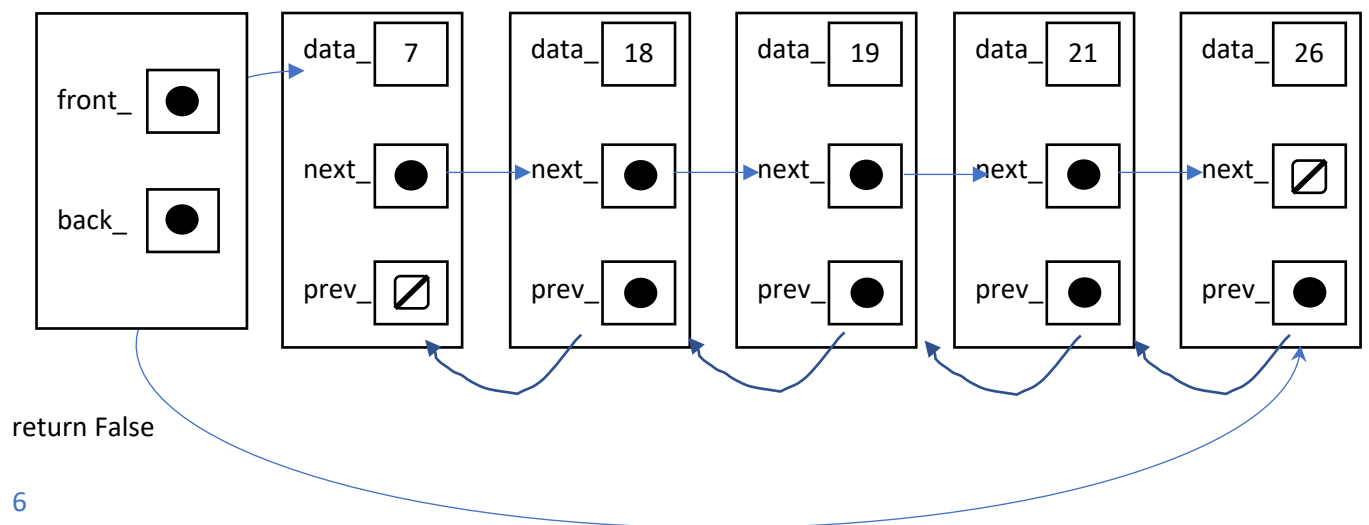
18 != 21 → False

19 != 21 → False

21 = 21 → True

return True

Q2

is_present(7)

if current.data == data

7 = 7 → True

current.data

| front_ | ● |
| back_ | ● |

data_ 7   data_ 18   data_ 19   data_ 21   data_ 26
next_ ●   next_ ●   next_ ●   next_ ●   next_ ⊘
prev_ ⊘   prev_ ●   prev_ ●   prev_ ●   prev_ ●

return True

Q3

is_present(11)

if current.data == data

7 != 11 → False

18 != 11 → False

19 != 11 → False

21 != 11 → False

26 != 11 → False

| front_ | ● |
| back_ | ● |

data_ 7   data_ 18   data_ 19   data_ 21   data_ 26
next_ ●   next_ ●   next_ ●   next_ ●   next_ ⊘
prev_ ⊘   prev_ ●   prev_ ●   prev_ ●   prev_ ●

return False

Q4

is_present(30)

if current.data == data

7 != 30 → False

18 != 30 → False

19 != 30 → False

21 != 30 → False

26 != 30 → False

return False