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Testing the array-based IndexList:
java.lang.IndexOutOfBoundsException: add: Invalid index = 1

 -- adding value 435 at position 0

*** The 1 elements in the list are:
 --Element in position 0 is: 435

 The capacity of the list is 1


 -- adding value 200 at position 1

*** The 2 elements in the list are:
 --Element in position 0 is: 435
 --Element in position 1 is: 200

 The capacity of the list is 2


*** The 10 elements in the list are:
 --Element in position 0 is: 435
 --Element in position 1 is: 200
 --Element in position 2 is: 435
 --Element in position 3 is: 200
 --Element in position 4 is: 20
 --Element in position 5 is: 25
 --Element in position 6 is: 30
 --Element in position 7 is: 35
 --Element in position 8 is: 40
 --Element in position 9 is: 45

 The capacity of the list is 10


 -- adding value 100 at position 90
java.lang.IndexOutOfBoundsException: add: Invalid index = 90

 -- adding value -1 at position 90
java.lang.IndexOutOfBoundsException: add: Invalid index = 90

 -- deleting element at position 100
java.lang.IndexOutOfBoundsException: get: Invalid index = 100

 -- deleting element at position -1
java.lang.IndexOutOfBoundsException: get: Invalid index = -1

 -- replacing value at position 100 by 0
java.lang.IndexOutOfBoundsException: get: Invalid index = 100

 -- replacing value at position -1 by 0
java.lang.IndexOutOfBoundsException: get: Invalid index = -1

 -- deleting element at position 4
 -- value of deleted element was 20

*** The 9 elements in the list are:
 --Element in position 0 is: 435
 --Element in position 1 is: 200
 --Element in position 2 is: 435
 --Element in position 3 is: 200
 --Element in position 4 is: 25
 --Element in position 5 is: 30
 --Element in position 6 is: 35
 --Element in position 7 is: 40
 --Element in position 8 is: 45

 The capacity of the list is 10


 -- deleting element at position 2
 -- value of deleted element was 435

*** The 8 elements in the list are:
 --Element in position 0 is: 435
 --Element in position 1 is: 200
 --Element in position 2 is: 200
 --Element in position 3 is: 25
 --Element in position 4 is: 30
 --Element in position 5 is: 35
 --Element in position 6 is: 40
 --Element in position 7 is: 45
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 The capacity of the list is 10


 -- deleting element at position 30
java.lang.IndexOutOfBoundsException: get: Invalid index = 30

 -- replacing value at position 3 by 400
 -- value of replaced element was 25

*** The 8 elements in the list are:
 --Element in position 0 is: 435
 --Element in position 1 is: 200
 --Element in position 2 is: 200
 --Element in position 3 is: 400
 --Element in position 4 is: 30
 --Element in position 5 is: 35
 --Element in position 6 is: 40
 --Element in position 7 is: 45

 The capacity of the list is 10


 -- replacing value at position 0 by 30
 -- value of replaced element was 435

*** The 8 elements in the list are:
 --Element in position 0 is: 30
 --Element in position 1 is: 200
 --Element in position 2 is: 200
 --Element in position 3 is: 400
 --Element in position 4 is: 30
 --Element in position 5 is: 35
 --Element in position 6 is: 40
 --Element in position 7 is: 45

 The capacity of the list is 10


 -- adding value 700 at position 3

*** The 9 elements in the list are:
 --Element in position 0 is: 30
 --Element in position 1 is: 200
 --Element in position 2 is: 200
 --Element in position 3 is: 700
 --Element in position 4 is: 400
 --Element in position 5 is: 30
 --Element in position 6 is: 35
 --Element in position 7 is: 40
 --Element in position 8 is: 45

 The capacity of the list is 10


 -- deleting element at position 8
 -- value of deleted element was 45

*** The 8 elements in the list are:
 --Element in position 0 is: 30
 --Element in position 1 is: 200
 --Element in position 2 is: 200
 --Element in position 3 is: 700
 --Element in position 4 is: 400
 --Element in position 5 is: 30
 --Element in position 6 is: 35
 --Element in position 7 is: 40

 The capacity of the list is 10


 -- deleting element at position 0
 -- value of deleted element was 30

*** The 7 elements in the list are:
 --Element in position 0 is: 200
 --Element in position 1 is: 200
 --Element in position 2 is: 700
 --Element in position 3 is: 400
 --Element in position 4 is: 30
 --Element in position 5 is: 35
 --Element in position 6 is: 40

 The capacity of the list is 9
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 -- deleting element at position 6
 -- value of deleted element was 40

*** The 6 elements in the list are:
 --Element in position 0 is: 200
 --Element in position 1 is: 200
 --Element in position 2 is: 700
 --Element in position 3 is: 400
 --Element in position 4 is: 30
 --Element in position 5 is: 35

 The capacity of the list is 8


 -- deleting element at position 0
 -- value of deleted element was 200

*** The 5 elements in the list are:
 --Element in position 0 is: 200
 --Element in position 1 is: 700
 --Element in position 2 is: 400
 --Element in position 3 is: 30
 --Element in position 4 is: 35

 The capacity of the list is 7


 -- deleting element at position 4
 -- value of deleted element was 35

*** The 4 elements in the list are:
 --Element in position 0 is: 200
 --Element in position 1 is: 700
 --Element in position 2 is: 400
 --Element in position 3 is: 30

 The capacity of the list is 6


 -- deleting element at position 0
 -- value of deleted element was 200

*** The 3 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 400
 --Element in position 2 is: 30

 The capacity of the list is 5


 -- deleting element at position 2
 -- value of deleted element was 30

*** The 2 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 400

 The capacity of the list is 4


 -- deleting element at position 0
 -- value of deleted element was 700

*** The 1 elements in the list are:
 --Element in position 0 is: 400

 The capacity of the list is 3


 -- deleting element at position 0
 -- value of deleted element was 400

*** The 0 elements in the list are:

 The capacity of the list is 2


 -- deleting element at position 0
java.lang.IndexOutOfBoundsException: get: Invalid index = 0

 -- adding value 700 at position 0
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*** The 1 elements in the list are:
 --Element in position 0 is: 700

 The capacity of the list is 2


 -- adding value 800 at position 1

*** The 2 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 800

 The capacity of the list is 2


 -- adding value 900 at position 2

*** The 3 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 800
 --Element in position 2 is: 900

 The capacity of the list is 3


 -- adding value 1000 at position 2

*** The 4 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 800
 --Element in position 2 is: 1000
 --Element in position 3 is: 900

 The capacity of the list is 4


 -- adding value 1001 at position 1

*** The 5 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 800
 --Element in position 3 is: 1000
 --Element in position 4 is: 900

 The capacity of the list is 5


 -- adding value 1002 at position 3

*** The 6 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 800
 --Element in position 3 is: 1002
 --Element in position 4 is: 1000
 --Element in position 5 is: 900

 The capacity of the list is 6


 -- adding value 700 at position 3

*** The 7 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 800
 --Element in position 3 is: 700
 --Element in position 4 is: 1002
 --Element in position 5 is: 1000
 --Element in position 6 is: 900

 The capacity of the list is 7


 -- adding value 800 at position 1

*** The 8 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 800
 --Element in position 2 is: 1001
 --Element in position 3 is: 800
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 --Element in position 4 is: 700
 --Element in position 5 is: 1002
 --Element in position 6 is: 1000
 --Element in position 7 is: 900

 The capacity of the list is 8


 -- adding value 900 at position 2

*** The 9 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 800
 --Element in position 2 is: 900
 --Element in position 3 is: 1001
 --Element in position 4 is: 800
 --Element in position 5 is: 700
 --Element in position 6 is: 1002
 --Element in position 7 is: 1000
 --Element in position 8 is: 900

 The capacity of the list is 9


 -- adding value 1000 at position 2

*** The 10 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 800
 --Element in position 2 is: 1000
 --Element in position 3 is: 900
 --Element in position 4 is: 1001
 --Element in position 5 is: 800
 --Element in position 6 is: 700
 --Element in position 7 is: 1002
 --Element in position 8 is: 1000
 --Element in position 9 is: 900

 The capacity of the list is 10


 -- adding value 1001 at position 1

*** The 11 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 800
 --Element in position 3 is: 1000
 --Element in position 4 is: 900
 --Element in position 5 is: 1001
 --Element in position 6 is: 800
 --Element in position 7 is: 700
 --Element in position 8 is: 1002
 --Element in position 9 is: 1000
 --Element in position 10 is: 900

 The capacity of the list is 11


 -- adding value 1002 at position 3

*** The 12 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 800
 --Element in position 3 is: 1002
 --Element in position 4 is: 1000
 --Element in position 5 is: 900
 --Element in position 6 is: 1001
 --Element in position 7 is: 800
 --Element in position 8 is: 700
 --Element in position 9 is: 1002
 --Element in position 10 is: 1000
 --Element in position 11 is: 900

 The capacity of the list is 12


 -- deleting element at position 2
 -- value of deleted element was 800

*** The 11 elements in the list are:
 --Element in position 0 is: 700
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 --Element in position 1 is: 1001
 --Element in position 2 is: 1002
 --Element in position 3 is: 1000
 --Element in position 4 is: 900
 --Element in position 5 is: 1001
 --Element in position 6 is: 800
 --Element in position 7 is: 700
 --Element in position 8 is: 1002
 --Element in position 9 is: 1000
 --Element in position 10 is: 900

 The capacity of the list is 12


 -- deleting element at position 2
 -- value of deleted element was 1002

*** The 10 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 1000
 --Element in position 3 is: 900
 --Element in position 4 is: 1001
 --Element in position 5 is: 800
 --Element in position 6 is: 700
 --Element in position 7 is: 1002
 --Element in position 8 is: 1000
 --Element in position 9 is: 900

 The capacity of the list is 12


 -- deleting element at position 2
 -- value of deleted element was 1000

*** The 9 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 900
 --Element in position 3 is: 1001
 --Element in position 4 is: 800
 --Element in position 5 is: 700
 --Element in position 6 is: 1002
 --Element in position 7 is: 1000
 --Element in position 8 is: 900

 The capacity of the list is 11


 -- deleting element at position 2
 -- value of deleted element was 900

*** The 8 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 1001
 --Element in position 3 is: 800
 --Element in position 4 is: 700
 --Element in position 5 is: 1002
 --Element in position 6 is: 1000
 --Element in position 7 is: 900

 The capacity of the list is 10


 -- deleting element at position 2
 -- value of deleted element was 1001

*** The 7 elements in the list are:
 --Element in position 0 is: 700
 --Element in position 1 is: 1001
 --Element in position 2 is: 800
 --Element in position 3 is: 700
 --Element in position 4 is: 1002
 --Element in position 5 is: 1000
 --Element in position 6 is: 900

 The capacity of the list is 9
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