

#append(value) adds a new node containing value to the end of the list

```
3
4 public class Main {
5     public static void main(String[] args) {
6         DataStructure list = new DataStructure();
7         list.append(10);
8         list.append(20);
9         list.append(30);
10        // list.prepend(5);
11        // list.size();
12        // list.head();
13        // list.tail();
14        // list.at(2);
15        // list.pop();
16        // list.contains(21);
17        // list.find(15);
18
19        list.printList();
20    }
21
22 }
23
24
25
```

Run Main x

"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA\bin\idea-agent.jar" -Didea.config.path=C:\Program Files\JetBrains\IntelliJ IDEA\config\idea.config.xml -Didea.copyright.path=C:\Program Files\JetBrains\IntelliJ IDEA\config\idea.copyright.xml -Didea.home.path=C:\Program Files\JetBrains\IntelliJ IDEA\bin -Didea.platform.prefix=Java -jar C:\Program Files\JetBrains\IntelliJ IDEA\bin\idea.jar 10 20 30

Process finished with exit code 0

#prepend(value) adds a new node containing value to the start of the list

```
> public class Main {
>     public static void main(String[] args) {
        DataStructure list = new DataStructure();
        list.append(10);
        list.append(20);
        list.append(30);
        list.prepend(value: 5);
        // list.size();
        // list.head();
        // list.tail();
        // list.at(2);
        // list.pop();
        // list.contains(21);
        // list.find(15);

        list.printList();
    }
}

Main x
5 10 20 30

Process finished with exit code 0
```

#size returns the total number of nodes in the list

```
4  ▶ public class Main {
5  ▶      public static void main(String[] args) {
6          DataStructure list = new DataStructure();
7          list.append(10);
8          list.append(20);
9          list.append(30);
10         // list.prepend(5);
11         // list.size();
12         // list.head();
13         // list.tail();
14         // list.at(2);
15         // list.pop();
16         // list.contains(21);
17         // list.find(15);
18
19         list.printList();
20     }
21
22
23
24 }
25
```

Run Main ×

↑ "C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Prog
3
↓ 10 20 30
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⇓ Process finished with exit code 0
🖨

#head returns the first node in the list

```
> public class Main {
>     public static void main(String[] args) {
        DataStructure list = new DataStructure();
        list.append(10);
        list.append(20);
        list.append(30);
        // list.prepend(5);
        // list.size();
        // list.head();
        // list.tail();
        // list.at(2);
        // list.pop();
        // list.contains(21);
        // list.find(15);

        list.printList();
    }
}

Main x
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"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaag
10.
10 20 30

Process finished with exit code 0
```

#tail returns the last node in the list

```
> public class Main {
>     public static void main(String[] args) {
        DataStructure list = new DataStructure();
        list.append(10);
        list.append(20);
        list.append(30);
        // list.prepend(5);
        // list.size();
        // list.head();
        ⚡ list.tail();
        // list.at(2);
        // list.pop();
        // list.contains(21);
        // list.find(15);

        list.printList();
    }
}

Main x
| 🔄 ⋮
"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent
30
10 20 30

Process finished with exit code 0
```

#at(index) returns the node at the given index

```
> public class Main {
>     public static void main(String[] args) {
        DataStructure list = new DataStructure();
        list.append(10);
        list.append(20);
        list.append(30);
        // list.prepend(5);
        // list.size();
        // list.head();
        // list.tail();
        list.at(index: 2);
        // list.pop();
        // list.contains(21);
        // list.find(15);

        list.printList();
    }
}

Main x
"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Pro
30
10 20 30

Process finished with exit code 0
```

#pop removes the last element from the list

```
> public class Main {
>     public static void main(String[] args) {
        DataStructure list = new DataStructure();
        list.append(10);
        list.append(20);
        list.append(30);
        // list.prepend(5);
        // list.size();
        // list.head();
        // list.tail();
        // list.at(2);
        list.pop();
        // list.contains(21);
        // list.find(15);

        list.printList();
    }
}

Main x
"C:\Program Files\Java\jdk-21\bin\java.exe" "-jav
10 20
Process finished with exit code 0
```

#contains?(value) returns true if the passed in value is in the list and otherwise returns false.

```
> public class Main {
>     public static void main(String[] args) {
        DataStructure list = new DataStructure();
        list.append(10);
        list.append(20);
        list.append(30);
        // list.prepend(5);
        // list.size();
        // list.head();
        // list.tail();
        // list.at(2);
        // list.pop();
        list.contains(20);
        // list.find(15);

        list.printList();
    }
}

Main x
[C] | [🔍] | [⋮]
"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Pro
true
10 20 30

Process finished with exit code 0
```



```
public class Main {  
    public static void main(String[] args) {  
        DataStructure list = new DataStructure();  
        list.append(10);  
        list.append(20);  
        list.append(30);  
        // list.prepend(5);  
        // list.size();  
        // list.head();  
        // list.tail();  
        // list.at(2);  
        // list.pop();  
        list.contains(21);  
        // list.find(15);  
  
        list.printList();  
    }  
}
```

Main x

"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C
false.
10 20 30

Process finished with exit code 0

#find(value) returns the index of the node containing value, or nil if not found.

```
public class Main {  
    public static void main(String[] args) {  
        DataStructure list = new DataStructure();  
        list.append(10);  
        list.append(20);  
        list.append(30);  
        // list.prepend(5);  
        // list.size();  
        // list.head();  
        // list.tail();  
        // list.at(2);  
        // list.pop();  
        // list.contains(21);  
        list.find( value: 20);  
  
        list.printList();  
    }  
}
```

Main x

```
"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Pro  
1  
10 20 30  
  
Process finished with exit code 0
```