

Create a Java class called **SpecialList**. This class will be a singly linked data structure composed of LinearNode objects (see the attached LinearNode class). Each list will call it 'd') such that elements less than d are on the left side of the list and elements greater than d are on the right side. The elements should not be sorted completely but sides of the list.

Whenever an element is added to the list, it must be compared to d to see which side of the list it should be added to. If it **less** than d, the element must be **added at the beginning** of the list. If it **greater** than d, **add the item to the end** of the list so that it becomes the last element of the list. We can assume that elements will never be equal to d.

The class must have the following 2 instance variables (you may NOT change or add any instance variables):

```
private LinearNode<Integer> front;
private int d;
```

The class must have a constructor which takes in a parameter d with which you must initialize the instance variable d. Initialize front as null. The class must also have a getFront() method that returns the front pointer.

The most important method of this class is **addToList (Integer element)** in which you must perform the main task of determining which side of the list to add the new element d. You also must create a new LinearNode<Integer> containing the new element and then add it to the correct side of the existing list (either the very front or the very end) and correctly update the connections from node to node must be correctly updated as well.

Hint: there are multiple cases to consider, i.e. the very first element vs. a new element < d vs. a new element > d

The method signature for this method must be:

```
public void addToList (Integer element)
```

[LinearNode.java \(/access/content/attachment/06a7cf63-c2c0-44cc-af25-61b74408bb93/Tests%20_%20Quizzes/70912509-2eb2-4117-961f-ab49b1b7777c/LinearNode.java\)](#)
[TestSpecialList.java \(/access/content/attachment/06a7cf63-c2c0-44cc-af25-61b74408bb93/Tests%20_%20Quizzes/693da9e4-d06d-4d2a-87dd-2db92d4dd570/TestSpecialList.java\)](#)

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