

☆ **Classes and Objects: Distance**

You will be given an abstract class with its fields and methods declared. The object will contain a distance in feet and inches. Implement the methods as described to initialize the class instances and return which of the distances is greater, if there is one.

The following code is provided in the locked portion of the editor:

- The declaration for an abstract class named *Distance* with the following fields and methods:

Fields				
Name	Type	Description		
feet	integer	A private instance variable to store the number of <i>feet</i> in the <i>Distance</i> object.		
inches	floating-point	A private instance variable to store the number of <i>inches</i> in the <i>Distance</i> object.		
The total value represented by a <i>Distance</i> object is a combination of its <i>feet</i> and <i>inches</i> . For example, if <i>feet</i> = 1 and <i>inches</i> = 6, the total length represented by the <i>Distance</i> object is <i>18in</i> or <i>1.5 feet</i> .				
Methods				
Return Type	Method Name	Param. Type	Param. Name	Description
void	setFeetAndInches	integer	feet	Assign a value to the <i>feet</i> instance variable.
		floating-point	inches	Assign a value to the <i>inches</i> instance variable.
integer	getFeet	no parameters		Returns the value of the <i>feet</i> instance variable.
integer	getInches	no parameters		Returns the value of the <i>inches</i> instance variable.
string	getDistanceComparison	Distance	dist2	Compares the distance between the object it's called on and the <i>Distance</i> object passed as an argument (i.e., <i>dist2</i>) and returns one of the following strings: <ul style="list-style-type: none">◦ If the object's distance is greater than <i>dist2</i>'s, return <i>First distance is greater</i>.◦ If <i>dist2</i>'s distance is greater than the object's, return <i>Second distance is greater</i>.◦ If both distances are equal, return <i>Both distances are equal</i>.

- A *main* method that does the following:
 - Creates a *DistanceImplementation* object named *dist1*.
 - Calls the *setFeetAndInches* method on *dist1*.
 - Creates a *DistanceImplementation* object named *dist2*.
 - Calls the *setFeetAndInches* method on *dist2*.
 - Calls *getDistanceComparison* on *dist1* and passes *dist2* to the function as an argument.

Complete the partially implemented code in the editor according to the specifications. The *getDistanceComparison* method must return a string denoting the result of the distance comparison as described above.

Constraints

- $1 \leq \text{feet} \leq 100$
- $1 \leq \text{inches} \leq 100$



Sample Case 0



Sample Input 0

1
2.0
3
4.1

1

2

Sample Output 0

Second distance is greater.

3

Explanation 0

The first distance is $1ft + 2.0in = 12.0in + 2.0in = 14.0in$ and the second distance is $3ft + 4.1in = 36.0in + 4.1in = 40.1in$.

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Sample Case 1

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Sample Case 2

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YOUR ANSWER

We recommend you take a quick tour of our editor before you proceed. The timer will pause up to 90 seconds for the tour.

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For help on how to read input and write output in Java 7, [click here](#).



Original Code

Java 7



```
1  import java.util.Scanner; ...
13
14  // Enter your code here.
15
16
17
18  public class DistanceCalculator { ...
```

Line: 13 Col: 1



📄 [Download sample test cases](#) *The input/output files have Unix line endings. Do not use Notepad to edit them on windows.*



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