JavaScript is disabled on your browser.

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* [Use](http://docs.google.com/class-use/NLGElement.html)
* [Tree](http://docs.google.com/package-tree.html)
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* [Prev Class](http://docs.google.com/simplenlg/framework/ListElement.html)
* [Next Class](http://docs.google.com/simplenlg/framework/NLGFactory.html)
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simplenlg.framework

## Class NLGElement

* java.lang.Object
  + simplenlg.framework.NLGElement

Direct Known Subclasses: [CoordinatedPhraseElement](http://docs.google.com/simplenlg/framework/CoordinatedPhraseElement.html), [DocumentElement](http://docs.google.com/simplenlg/framework/DocumentElement.html), [InflectedWordElement](http://docs.google.com/simplenlg/framework/InflectedWordElement.html), [ListElement](http://docs.google.com/simplenlg/framework/ListElement.html), [PhraseElement](http://docs.google.com/simplenlg/framework/PhraseElement.html), [StringElement](http://docs.google.com/simplenlg/framework/StringElement.html), [WordElement](http://docs.google.com/simplenlg/framework/WordElement.html)

* public abstract class NLGElement  
  extends java.lang.Object  
  NLGElement is the base class that all elements extend from. This is abstract and cannot therefore be instantiated itself. The additional element classes should be used to correctly identify the type of element required.  
  Realisation in SimpleNLG revolves around a tree structure. Each node in the tree is represented by a NLGElement, which in turn may have child nodes. The job of the processors is to replace various types of elements with other elements. The eventual goal, once all the processors have been run, is to produce a single string element representing the final realisation.  
  The features are stored in a Map of String (the feature name) and Object (the value of the feature).Version: 4.0 Author: D. Westwater, University of Aberdeen.

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [**NLGElement**](http://docs.google.com/simplenlg/framework/NLGElement.html#NLGElement())() |

### Method SummaryMethods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + void | * + [**clearAllFeatures**](http://docs.google.com/simplenlg/framework/NLGElement.html#clearAllFeatures())() Deletes all the features in the map. |
| * + boolean | * + [**equals**](http://docs.google.com/simplenlg/framework/NLGElement.html#equals(java.lang.Object))(java.lang.Object o) An NLG element is equal to some object if the object is an NLGElement, they have the same category and the same features. |
| * + boolean | * + [**equals**](http://docs.google.com/simplenlg/framework/NLGElement.html#equals(java.lang.String))(java.lang.String elementRealisation) Determines if this element has its realisation equal to the given string. |
| * + java.util.Set<java.lang.String> | * + [**getAllFeatureNames**](http://docs.google.com/simplenlg/framework/NLGElement.html#getAllFeatureNames())() Retrieves the set of features currently contained in the feature map. |
| * + java.util.Map<java.lang.String,java.lang.Object> | * + [**getAllFeatures**](http://docs.google.com/simplenlg/framework/NLGElement.html#getAllFeatures())() Retrieves the map containing all the features for this element. |
| * + [ElementCategory](http://docs.google.com/simplenlg/framework/ElementCategory.html) | * + [**getCategory**](http://docs.google.com/simplenlg/framework/NLGElement.html#getCategory())() Retrieves the category for this element. |
| * + abstract java.util.List<[NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html)> | * + [**getChildren**](http://docs.google.com/simplenlg/framework/NLGElement.html#getChildren())() Retrieves the children for this element. |
| * + [NLGFactory](http://docs.google.com/simplenlg/framework/NLGFactory.html) | * + [**getFactory**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFactory())() |
| * + java.lang.Object | * + [**getFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeature(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature. |
| * + java.lang.Boolean | * + [**getFeatureAsBoolean**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsBoolean(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a Boolean. |
| * + java.lang.Double | * + [**getFeatureAsDouble**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsDouble(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a Double. |
| * + [NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html) | * + [**getFeatureAsElement**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsElement(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a NLGElement. |
| * + java.util.List<[NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html)> | * + [**getFeatureAsElementList**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsElementList(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a list of elements. |
| * + java.lang.Float | * + [**getFeatureAsFloat**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsFloat(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a Float. |
| * + java.lang.Integer | * + [**getFeatureAsInteger**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsInteger(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as an Integer. |
| * + java.util.List<java.lang.Object> | * + [**getFeatureAsList**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsList(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a list of java objects. |
| * + java.lang.Long | * + [**getFeatureAsLong**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsLong(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a Long. |
| * + java.lang.String | * + [**getFeatureAsString**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsString(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a string. |
| * + java.util.List<java.lang.String> | * + [**getFeatureAsStringList**](http://docs.google.com/simplenlg/framework/NLGElement.html#getFeatureAsStringList(java.lang.String))(java.lang.String featureName) Retrieves the value of the feature as a list of strings. |
| * + [NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html) | * + [**getParent**](http://docs.google.com/simplenlg/framework/NLGElement.html#getParent())() Retrieves the parent of this element. |
| * + java.lang.String | * + [**getRealisation**](http://docs.google.com/simplenlg/framework/NLGElement.html#getRealisation())() Retrieves the final realisation of this element. |
| * + [Tense](http://docs.google.com/simplenlg/features/Tense.html) | * + [**getTense**](http://docs.google.com/simplenlg/framework/NLGElement.html#getTense())() **Deprecated.** |
| * + boolean | * + [**hasFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#hasFeature(java.lang.String))(java.lang.String featureName) Checks the feature map to see if the named feature is present in the map. |
| * + boolean | * + [**isA**](http://docs.google.com/simplenlg/framework/NLGElement.html#isA(simplenlg.framework.ElementCategory))([ElementCategory](http://docs.google.com/simplenlg/framework/ElementCategory.html) checkCategory) |
| * + boolean | * + [**isNegated**](http://docs.google.com/simplenlg/framework/NLGElement.html#isNegated())() **Deprecated.** |
| * + boolean | * + [**isPlural**](http://docs.google.com/simplenlg/framework/NLGElement.html#isPlural())() Determines if this element is to be treated as a plural. |
| * + java.lang.String | * + [**printTree**](http://docs.google.com/simplenlg/framework/NLGElement.html#printTree(java.lang.String))(java.lang.String indent) |
| * + void | * + [**removeFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#removeFeature(java.lang.String))(java.lang.String featureName) Deletes the named feature from the map. |
| * + void | * + [**setCategory**](http://docs.google.com/simplenlg/framework/NLGElement.html#setCategory(simplenlg.framework.ElementCategory))([ElementCategory](http://docs.google.com/simplenlg/framework/ElementCategory.html) newCategory) Sets the category of this element. |
| * + void | * + [**setFactory**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFactory(simplenlg.framework.NLGFactory))([NLGFactory](http://docs.google.com/simplenlg/framework/NLGFactory.html) factory) |
| * + void | * + [**setFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFeature(java.lang.String,%20boolean))(java.lang.String featureName, boolean featureValue) A convenience method for setting boolean features. |
| * + void | * + [**setFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFeature(java.lang.String,%20double))(java.lang.String featureName, double featureValue) A convenience method for setting double precision floating point number features. |
| * + void | * + [**setFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFeature(java.lang.String,%20float))(java.lang.String featureName, float featureValue) A convenience method for setting floating point number features. |
| * + void | * + [**setFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFeature(java.lang.String,%20int))(java.lang.String featureName, int featureValue) A convenience method for setting integer features. |
| * + void | * + [**setFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFeature(java.lang.String,%20long))(java.lang.String featureName, long featureValue) A convenience method for setting long integer features. |
| * + void | * + [**setFeature**](http://docs.google.com/simplenlg/framework/NLGElement.html#setFeature(java.lang.String,%20java.lang.Object))(java.lang.String featureName, java.lang.Object featureValue) Adds a feature to the feature map. |
| * + void | * + [**setNegated**](http://docs.google.com/simplenlg/framework/NLGElement.html#setNegated(boolean))(boolean isNegated) **Deprecated.** |
| * + void | * + [**setParent**](http://docs.google.com/simplenlg/framework/NLGElement.html#setParent(simplenlg.framework.NLGElement))([NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html) newParent) Sets the parent element of this element. |
| * + void | * + [**setPlural**](http://docs.google.com/simplenlg/framework/NLGElement.html#setPlural(boolean))(boolean isPlural) Sets the number agreement on this element. |
| * + void | * + [**setRealisation**](http://docs.google.com/simplenlg/framework/NLGElement.html#setRealisation(java.lang.String))(java.lang.String realised) Sets the realisation of this element. |
| * + void | * + [**setTense**](http://docs.google.com/simplenlg/framework/NLGElement.html#setTense(simplenlg.features.Tense))([Tense](http://docs.google.com/simplenlg/features/Tense.html) newTense) **Deprecated.** |
| * + java.lang.String | * + [**toString**](http://docs.google.com/simplenlg/framework/NLGElement.html#toString())() |

### Methods inherited from class java.lang.ObjectgetClass, hashCode, notify, notifyAll, wait, wait, wait

### Constructor Detail

#### NLGElement public NLGElement()

### Method Detail

#### setCategory public void setCategory([ElementCategory](http://docs.google.com/simplenlg/framework/ElementCategory.html) newCategory) Sets the category of this element.Parameters:newCategory - the new ElementCategory for this element.

#### getCategory public [ElementCategory](http://docs.google.com/simplenlg/framework/ElementCategory.html) getCategory() Retrieves the category for this element.Returns:the category as a ElementCategory.

#### setFeature public void setFeature(java.lang.String featureName, java.lang.Object featureValue) Adds a feature to the feature map. If the feature already exists then it is given the new value. If the value provided is null the feature is removed from the map.Parameters:featureName - the name of the feature.featureValue - the new value of the feature or null if the feature is to be removed.

#### setFeature public void setFeature(java.lang.String featureName, boolean featureValue) A convenience method for setting boolean features.Parameters:featureName - the name of the feature.featureValue - the boolean value of the feature.

#### setFeature public void setFeature(java.lang.String featureName, int featureValue) A convenience method for setting integer features.Parameters:featureName - the name of the feature.featureValue - the int value of the feature.

#### setFeature public void setFeature(java.lang.String featureName, long featureValue) A convenience method for setting long integer features.Parameters:featureName - the name of the feature.featureValue - the long value of the feature.

#### setFeature public void setFeature(java.lang.String featureName, float featureValue) A convenience method for setting floating point number features.Parameters:featureName - the name of the feature.featureValue - the float value of the feature.

#### setFeature public void setFeature(java.lang.String featureName, double featureValue) A convenience method for setting double precision floating point number features.Parameters:featureName - the name of the feature.featureValue - the double value of the feature.

#### getFeature public java.lang.Object getFeature(java.lang.String featureName) Retrieves the value of the feature.Parameters:featureName - the name of the feature. Returns:the Object value of the feature.

#### getFeatureAsString public java.lang.String getFeatureAsString(java.lang.String featureName) Retrieves the value of the feature as a string. If the feature doesn't exist then null is returned.Parameters:featureName - the name of the feature. Returns:the String representation of the value. This is taken by calling the object's toString() method.

#### getFeatureAsElementList public java.util.List<[NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html)> getFeatureAsElementList(java.lang.String featureName) Retrieves the value of the feature as a list of elements. If the feature is a single NLGElement then it is wrapped in a list. If the feature is a Collection then each object in the collection is checked and only NLGElements are returned in the list. If the feature does not exist then an empty list is returned.Parameters:featureName - the name of the feature. Returns:the List of NLGElements

#### getFeatureAsList public java.util.List<java.lang.Object> getFeatureAsList(java.lang.String featureName) Retrieves the value of the feature as a list of java objects. If the feature is a single element, the list contains only this element. If the feature is a Collection each object in the collection is returned in the list. If the feature does not exist then an empty list is returned.Parameters:featureName - the name of the feature. Returns:the List of Objects

#### getFeatureAsStringList public java.util.List<java.lang.String> getFeatureAsStringList(java.lang.String featureName) Retrieves the value of the feature as a list of strings. If the feature is a single element, then its toString() value is wrapped in a list. If the feature is a Collection then the toString() value of each object in the collection is returned in the list. If the feature does not exist then an empty list is returned.Parameters:featureName - the name of the feature. Returns:the List of Strings

#### getFeatureAsInteger public java.lang.Integer getFeatureAsInteger(java.lang.String featureName) Retrieves the value of the feature as an Integer. If the feature does not exist or cannot be converted to an integer then null is returned.Parameters:featureName - the name of the feature. Returns:the Integer representation of the value. Numbers are converted to integers while Strings are parsed for integer values. Any other type will return null.

#### getFeatureAsLong public java.lang.Long getFeatureAsLong(java.lang.String featureName) Retrieves the value of the feature as a Long. If the feature does not exist or cannot be converted to a long then null is returned.Parameters:featureName - the name of the feature. Returns:the Long representation of the value. Numbers are converted to longs while Strings are parsed for long values. Any other type will return null.

#### getFeatureAsFloat public java.lang.Float getFeatureAsFloat(java.lang.String featureName) Retrieves the value of the feature as a Float. If the feature does not exist or cannot be converted to a float then null is returned.Parameters:featureName - the name of the feature. Returns:the Float representation of the value. Numbers are converted to floats while Strings are parsed for float values. Any other type will return null.

#### getFeatureAsDouble public java.lang.Double getFeatureAsDouble(java.lang.String featureName) Retrieves the value of the feature as a Double. If the feature does not exist or cannot be converted to a double then null is returned.Parameters:featureName - the name of the feature. Returns:the Double representation of the value. Numbers are converted to doubles while Strings are parsed for double values. Any other type will return null.

#### getFeatureAsBoolean public java.lang.Boolean getFeatureAsBoolean(java.lang.String featureName) Retrieves the value of the feature as a Boolean. If the feature does not exist or is not a boolean then Boolean.FALSE is returned.Parameters:featureName - the name of the feature. Returns:the Boolean representation of the value. Any non-Boolean type will return Boolean.FALSE.

#### getFeatureAsElement public [NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html) getFeatureAsElement(java.lang.String featureName) Retrieves the value of the feature as a NLGElement. If the value is a string then it is wrapped in a StringElement. If the feature does not exist or is of any other type then null is returned.Parameters:featureName - the name of the feature. Returns:the NLGElement.

#### getAllFeatures public java.util.Map<java.lang.String,java.lang.Object> getAllFeatures() Retrieves the map containing all the features for this element.Returns:a Map of String, Object.

#### hasFeature public boolean hasFeature(java.lang.String featureName) Checks the feature map to see if the named feature is present in the map.Parameters:featureName - the name of the feature to look for. Returns:true if the feature exists, false otherwise.

#### removeFeature public void removeFeature(java.lang.String featureName) Deletes the named feature from the map.Parameters:featureName - the name of the feature to be removed.

#### clearAllFeatures public void clearAllFeatures() Deletes all the features in the map.

#### setParent public void setParent([NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html) newParent) Sets the parent element of this element.Parameters:newParent - the NLGElement that is the parent of this element.

#### getParent public [NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html) getParent() Retrieves the parent of this element.Returns:the NLGElement that is the parent of this element.

#### setRealisation public void setRealisation(java.lang.String realised) Sets the realisation of this element.Parameters:realised - the String representing the final realisation for this element.

#### getRealisation public java.lang.String getRealisation() Retrieves the final realisation of this element.Returns:the String representing the final realisation for this element.

#### toString public java.lang.String toString()**Overrides:** toString in class java.lang.Object

#### isA public boolean isA([ElementCategory](http://docs.google.com/simplenlg/framework/ElementCategory.html) checkCategory)

#### getChildren public abstract java.util.List<[NLGElement](http://docs.google.com/simplenlg/framework/NLGElement.html)> getChildren() Retrieves the children for this element. This method needs to be overridden for each specific type of element. Each type of element will have its own way of determining the child elements.Returns:a List of NLGElements representing the children of this element.

#### getAllFeatureNames public java.util.Set<java.lang.String> getAllFeatureNames() Retrieves the set of features currently contained in the feature map.Returns:a Set of Strings representing the feature names. The set is unordered.

#### printTree public java.lang.String printTree(java.lang.String indent)

#### equals public boolean equals(java.lang.String elementRealisation) Determines if this element has its realisation equal to the given string.Parameters:elementRealisation - the string to check against. Returns:true if the string matches the element's realisation, false otherwise.

#### setPlural public void setPlural(boolean isPlural) Sets the number agreement on this element. This method is added for convenience and not all element types will make use of the number agreement feature. The method is identical to calling setFeature(Feature.NUMBER, NumberAgreement.PLURAL) for plurals or setFeature(Feature.NUMBER, NumberAgreement.SINGULAR) for the singular.Parameters:isPlural - true if this element is to be treated as a plural, false otherwise.

#### isPlural public boolean isPlural() Determines if this element is to be treated as a plural. This is a convenience method and not all element types make use of number agreement.Returns:true if the Feature.NUMBER feature has the value NumberAgreement.PLURAL, false otherwise.

#### getTense @Deprecated public [Tense](http://docs.google.com/simplenlg/features/Tense.html) getTense() Deprecated.  Retrieves the tense for this element. The method is identical to calling getFeature(Feature.TENSE) and casting the result as Tense. \* WARNING: You should use getFeature(Feature.TENSE) getTense will be dropped from simplenlg at some pointReturns:the Tense of this element.

#### setTense @Deprecated public void setTense([Tense](http://docs.google.com/simplenlg/features/Tense.html) newTense) Deprecated.  Sets the tense on this element. The method is identical to calling setFeature(Feature.TENSE, newTense). WARNING: You should use setTense(Feature.TENSE, tense) setTense will be dropped from simplenlg at some pointParameters:newTense - the new tense for this element.

#### setNegated @Deprecated public void setNegated(boolean isNegated) Deprecated.  Sets the negation on this element. The method is identical to calling setFeature(Feature.NEGATED, isNegated). WARNING: You should use setFeature(Feature.NEGATED, isNegated) setNegated will be dropped from simplenlg at some pointParameters:isNegated - true if the element is to be negated, false otherwise.

#### isNegated @Deprecated public boolean isNegated() Deprecated.  Determines if this element is to be treated as a negation. This method just examines the value of the NEGATED feature WARNING: You should use getFeature(Feature.NEGATED) getNegated will be dropped from simplenlg at some pointReturns:true if the Feature.NEGATED feature exists and has the value Boolean.TRUE, false is returned otherwise.

#### getFactory public [NLGFactory](http://docs.google.com/simplenlg/framework/NLGFactory.html) getFactory()Returns:the NLG factory

#### setFactory public void setFactory([NLGFactory](http://docs.google.com/simplenlg/framework/NLGFactory.html) factory)Parameters:factory - the NLG factory to set

#### equals public boolean equals(java.lang.Object o) An NLG element is equal to some object if the object is an NLGElement, they have the same category and the same features.**Overrides:** equals in class java.lang.Object

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/NLGElement.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-files/index-1.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/simplenlg/framework/ListElement.html)
* [Next Class](http://docs.google.com/simplenlg/framework/NLGFactory.html)
* [Frames](http://docs.google.com/index.html?simplenlg/framework/NLGElement.html)
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