Package Collation

Enum Class LocaleCategory

java.lang.Object
    java.lang.Enum<LocaleCategory>
        Collation.LocaleCategory

All Implemented Interfaces:

Serializable, Comparable<LocaleCategory>, Constable

```
public enum LocaleCategory
extends Enum<LocaleCategory>
```

The purposes that locales serve are grouped into categories, so that a user or a program can choose the locale for each category independently. The following is all the available categories; each name is both an environment variable that a user can set, and a macro name that you can use as the first argument to `Collation.setLocale`.

Nested Class Summary

Nested classes/interfaces inherited from class java.lang.Enum

`Enum.EnumDesc<E extends Enum<E>>`

Enum Constant Summary

Enum Constants

Enum Constant	Description
LANG	
LC_ALL	
LC_COLLATE	
LC_CTYPE	
LC_MESSAGES	
LC_MONETARY	

LC_NUMERIC
LC_TIME

Method Summary

All Methods | Static Methods | Concrete Methods

Modifier and Type	Method	Description
static LocaleCategory	valueOf(String name)	Returns the enum constant of this class with the specified name.
static LocaleCategory[]	values()	Returns an array containing the constants of this enum class, in the order they are declared.

Methods inherited from class java.lang.Enum

clone, compareTo, describeConstable, equals, finalize, getDeclaringClass, hashCode, name, ordinal, toString, valueOf

Methods inherited from class java.lang.Object

getClass, notify, notifyAll, wait, wait, wait

Enum Constant Details

LC_COLLATE

```
public static final LocaleCategory LC_COLLATE
```

LC_CTYPE

```
public static final LocaleCategory LC_CTYPE
```

LC_MONETARY

```
public static final LocaleCategory LC_MONETARY
```

LC_NUMERIC

```
public static final LocaleCategory LC_NUMERIC
```

LC_TIME

```
public static final LocaleCategory LC_TIME
```

LC_MESSAGES

```
public static final LocaleCategory LC_MESSAGES
```

LC_ALL

```
public static final LocaleCategory LC_ALL
```

LANG

```
public static final LocaleCategory LANG
```

Method Details

values

```
public static LocaleCategory[] values()
```

Returns an array containing the constants of this enum class, in the order they are declared.

Returns:

an array containing the constants of this enum class, in the order they are declared

valueOf

```
public static LocaleCategory valueOf(String name)
```

Returns the enum constant of this class with the specified name. The string must match *exactly* an identifier used to declare an enum constant in this class. (Extraneous whitespace characters are not permitted.)

Parameters:

`name` - the name of the enum constant to be returned.

Returns:

the enum constant with the specified name

Throws:

`IllegalArgumentException` - if this enum class has no constant with the specified name

`NullPointerException` - if the argument is null

Package Collation

Class Collation

java.lang.Object
    Collation.Collation

```
public class Collation
extends Object
```

The `Collation` class provides locale-specific string comparison and transformation capabilities.

This class includes methods for:

- Setting and retrieving the locale for specific `LocaleCategory` categories.
- Lexicographically comparing strings based on the collation rules of the current locale.
- Transforming a specified number of characters in a string according to locale-specific collation settings.

Example Usage:

```
Collation collation = new Collation();
boolean success = collation.setLocale(LocaleCategory.LC_ALL, "zh_CN.GB2312");
if (success) {
     System.out.println(collation.compareStringWithCollation("你好", "你好世界")); // expect a negative number
     System.out.println(collation.transformStringWithCollation("你好世界", 2)); // expect to be "你好"
}
```

Constructor Summary

Constructors

Constructor	Description
`Collation()`	Collation Constructor, initialize the class, it does: 1.

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`int`	`compareStringWithCollation(String s1, String s2)`	Lexicographically compare two strings using the collating sequence of the current locale for collation.
`String`	`getLocale(LocaleCategory localeCategory)`	Get current locale associated with the `localeCategory`
`boolean`	`setLocale(LocaleCategory localeCategory, String local)`	The function sets the current locale for the `localeCategory` to be `locale`.
`String`	`transformStringWithCollation(String from, int size)`	The function transforms a specified number of characters, given by `size`, from the string `from` using a collation transformation based on the currently selected locale, and returns the transformed string.

Methods inherited from class java.lang.Object

`clone`, `equals`, `finalize`, `getClass`, `hashCode`, `notify`, `notifyAll`, `toString`, `wait`, `wait`, `wait`

Constructor Details

Collation

```
public Collation()
```

Collation Constructor, initialize the class, it does: 1. search current environment's locale 2. set the `LocaleCategory` and local inherited from the environment

Method Details

setLocale

```
public boolean setLocale(LocaleCategory localeCategory,
                         String local)
```

The function sets the current locale for the `localeCategory` to be `locale`.

The method is not safe to use in multi-thread programs without additional synchronization.

Parameters:

`localeCategory` - If category is `LC_ALL`, this specifies the locale for all purposes. The other possible values of category specify a single purpose (see `LocaleCategory`).

`local` - the local name represented by String. The command `locale -a` prints all the local names supported by the current system. This argument is expected to be one of these names.

Returns:

true if the specified local name is valid, false otherwise. The current locale will not be unchanged if the local name is invalid

getLocale

```
public String getLocale(LocaleCategory localeCategory)
```

Get current locale associated with the `localeCategory`

Returns:

a string that is the name of the locale currently selected for `LocaleCategory`

compareStringWithCollation

```
public int compareStringWithCollation(String s1,
                                      String s2)
```

Lexicographically compare two strings using the collating sequence of the current locale for collation. The current locale can be retrieved by `getLocale(LocaleCategory.LC_COLLATE)`.

The method is safe to use in multi-thread programs without additional synchronization.

Parameters:

`s1` - the first string to be compared.

`s2` - the second string to be compared.

Returns:

a positive integer if `str1` object lexicographically precedes the `str2`. The result is a negative integer if `str1` is lexicographically smaller than `str2`. The result is zero if `str1` and `str2` are equal.

transformStringWithCollation

```
public String transformStringWithCollation(String from,
                                           int size)
                                    throws IllegalArgumentException
```

The function transforms a specified number of characters, given by `size`, from the string `from` using a collation transformation based on the currently selected locale, and returns the transformed string. Up to size bytes (including a terminating null byte) are stored.

The transformed string may be longer than the original string, and it may also be shorter.

The method is safe to use in multi-thread programs without additional synchronization.

Parameters:

`from` - the String to be transformed from

`size` - the number of characters in `from` to transform

Returns:

a string `size` bytes

Throws:

`IllegalArgumentException` - if size ≤ 0, or if the `size` is larger than the number of characters in the String `from`. Note: if `from` contains Unicode characters, its number of characters is `from.codePointCount(0, from.length());`, else the number of characters is `from.length()`