

Chapter 20 Internationalization

1. Use Unicode.
2. You can construct a Locale object using the constructor such as `new Locale(String languageCode, String countryCode)`, or use the constants such as `Locale.US`. To display all the available locales, use the `getAvailableLocales()` from the instances of `Calendar`, `DateFormat`, `NumberFormat`, or `Collator`.
3. Each Swing GUI component contains the locale property. So you can use the `setLocale` method to set a new locale.
`jbt.setLocale(new Locale("fr", "CA"))`; or
`jbt.setLocale(Locale.CANADA_FRENCH)`

`jlbl.setLocale(new Locale("nl", "NL"))`;
4. `cal.setTimeZone(TimeZone.getTimeZone("PST"))`
5. Create an instance of `GregorianCalendar` with the German locale, and set appropriate time zone, and use `DateFormat` class to display time and date.
- 6.

```
SimpleDateFormat formatter  
= new SimpleDateFormat ("yyyy.MM.dd hh:mm:ss z");  
date currentTime = new Date();  
String dateString = formatter.format(currentTime);  
System.out.println("Current time is " + dateString);
```

7. `availableTimeZones` contains strings. Strings are comparable. But `availableLocales` contains Locale objects. The `Locales` class does not implement the `Comparable` interface.
8.
`NumberFormat numberFormat = NumberFormat.getInstance(Locale.UK);`
`numberFormat.setMaximumFractionDigits(2);`
`System.out.println(numberFormat.format(12345.678));`
9.
`NumberFormat currencyFormat =`
`NumberFormat.getCurrencyInstance(Locale.US);`
`System.out.println(currencyFormat.format(12345.678));`
10.
`NumberFormat percentFormat =`
`NumberFormat.getPercentInstance(Locale.US);`
`percentFormat.setMinimumFractionDigits(3);`
`System.out.println(percentFormat.format(0.345678));`

11.

```
NumberFormat numberFormat =  
    NumberFormat.getInstance(Locale.US);  
try {  
    Number number = numberFormat.parse("3,456.78");  
    System.out.println(number.doubleValue());  
}  
catch (java.text.ParseException ex) {  
    System.out.println("Parse failed");  
}
```

12.

```
NumberFormat numberFormat = NumberFormat.getInstance(Locale.US);  
DecimalFormat decimalFormat = (DecimalFormat)numberFormat;  
decimalFormat.applyPattern("00.0##");  
System.out.println(decimalFormat.format(12345.678));
```

13. The `getBundle()` method attempts to load the class that matches the specified locale by language, country and variant by searching the file name in the order. The files searched in this order form a resource chain. If no file is found in the resource chain, the `getBundel()` method raises a `MissingResourceException`.

14. Once a resource bundle object is created, you can use the `getObject()` method to retrieve the value according to the key. Resource bundles contain key/value pairs. The keys uniquely identify a locale-specific object in the bundle. You can use the key to retrieve the object.