数值常量中的下划线

Underscores in Numeric Literals

In Java SE 7 and later, any number of underscore characters (_) can appear anywhere between digits in a numerical literal. This feature enables you, for example, to separate groups of digits in numeric literals, which can improve the readability of your code. 提高代码的可读性

For instance, if your code contains numbers with many digits, you can use an underscore character to separate digits in groups of three, similar to how you would use a punctuation mark like a comma, or a space, as a separator.

The following example shows other ways you can use the underscore in numeric literals:

```
long creditCardNumber = 1234_5678_9012_3456L;
long socialSecurityNumber = 999_99_9999L;
float pi =       3.14_15F;
long hexBytes = 0xFF_EC_DE_5E;
long hexWords = 0xCAFE_BABE;
long maxLong = 0x7fff_ffff_ffff_ffffL;
byte nybbles = 0b0010_0101;
long bytes = 0b11010010_01101001_10010100_10010010;
```

You can place underscores only between digits; you cannot place underscores in the following places:

- At the beginning or end of a number
- Adjacent to a decimal point in a floating point literal
- Prior to an `F` or `L` suffix
- In positions where a string of digits is expected

The following examples demonstrate valid and invalid underscore placements (which are highlighted) in numeric literals:

```
float pi1 = 3_.1415F;       // Invalid; cannot put underscores adjacent to a decimal point
float pi2 = 3._1415F;       // Invalid; cannot put underscores adjacent to a decimal point
long socialSecurityNumber1
  = 999_99_9999_L;          // Invalid; cannot put underscores prior to an L suffix

int x1 = _52;               // This is an identifier, not a numeric literal
int x2 = 5_2;               // OK (decimal literal)
int x3 = 52_;               // Invalid; cannot put underscores at the end of a literal
int x4 = 5_______2;         // OK (decimal literal)

int x5 = 0_x52;             // Invalid; cannot put underscores in the 0x radix prefix
int x6 = 0x_52;             // Invalid; cannot put underscores at the beginning of a number
int x7 = 0x5_2;             // OK (hexadecimal literal)
int x8 = 0x52_;             // Invalid; cannot put underscores at the end of a number

int x9 = 0_52;              // OK (octal literal)
int x10 = 05_2;             // OK (octal literal)
int x11 = 052_;             // Invalid; cannot put underscores at the end of a number
```