源文件中公有类数量≤1。

源文件名是文件中公有类名。

# 运算符

结合顺序：从左向右

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 优先级 |  | 用法 | 计算结果 | 副作用 |  |
| 1 | . |  |  |  |  |
| [] |  |  |  |  |
| () |  |  |  |  |
| 2 | ++ |  |  |  |  |
| -- |  |  |  |  |
| ! |  |  |  |  |
| ~ |  |  |  |  |
| instanceof |  |  |  |  |
| 3 | new |  |  |  |  |
| 4 | \* |  |  |  |  |
| / |  |  |  |  |
| % |  |  |  |  |
| 5 | + |  |  |  |  |
| - |  |  |  |  |
| 6 | >> |  |  |  |  |
| >>> |  |  |  |  |
| << |  |  |  |  |
| 7 | < |  |  |  |  |
| > |  |  |  |  |
| <= |  |  |  |  |
| >= |  |  |  |  |
| 8 | == |  |  |  |  |
| != |  |  |  |  |
| 9 | & |  |  |  |  |
| 10 | ^ |  |  |  |  |
| 11 | | |  |  |  |  |
| 12 | && |  |  |  |  |
| 13 | || |  |  |  |  |
| 14 | ?: |  |  |  |  |
| 15 | = |  |  |  |  |
| += |  |  |  |  |
| -= |  |  |  |  |
| \*= |  |  |  |  |
| /= |  |  |  |  |
| %= |  |  |  |  |
| ^= |  |  |  |  |
| 16 | &= |  |  |  |  |
| |= |  |  |  |  |
| <<= |  |  |  |  |
| >>= |  |  |  |  |
| >>>= |  |  |  |  |

# 标识符、关键字

# 数据

## 基本数据类型

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | |  |  | | byte | 1 | | short | 2 | | int | 4 | | long | 8 | | float | 4 | | double | 8 | | boolean |  | | char | 2 | |  |
| 布尔  true、false |  |
| 字符  转义字符 |  |
| 整数   |  |  | | --- | --- | |  | 前缀 | | 八进制常量 | 0 | | 十六进制常量 | 0x或0X | |  |
| 浮点数   |  |  | | --- | --- | |  | 后缀 | | long常量 | l或L | | float常量 | f或F | | double常量 | 无或d或D | |  |
| 数据类型转换  扩展转换、窄化转换  赋值转换、方法调用转换、强制类型转换、字符串转换 |  |

## 派生数据类型

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 数组   |  |  | | --- | --- | | 声明 |  | | 创建  自动初始化：0、false、null。 |  | | 访问  数组下标：byte、short、int、char。 |  |   length数据成员 | |
|  |  |

## 自定义数据类型

类

|  |  |
| --- | --- |
| 声明  (|class )(|abstract |final )class **类名**( extends **基类名**)?( implements **接口名**(,**接口名**)\*)?  {  ( (**数据成员声明**|**方法成员声明**)  )\*} |  |
| 存取控制符   |  |  | | --- | --- | | 没有 | 默认类，可以被当前包中的类访问。 | | public | 公有类，可以被所有类访问。 | |  |
| |  |  | | --- | --- | | 没有 | 都不是 | | abstract | 抽象类 | | final | 终结类 | |  |
| 类成员的访问控制符（访问权限控制符）   |  |  | | --- | --- | | 无 | 可以被当前包中的类访问。 | | public | 可以被所有类访问。 | | protected | 可以被当前类和子类访问。 | | private | 可以被当前类访问。 | |  |
| 数据成员   |  |  | | --- | --- | | 声明  (|public |protected |private )(static )?(final )?(transient )?(volatile )?**数据类型名** **变量名**(=**表达式**)?(,  **变量名**(=**表达式**)?)\*; |  | | |  |  |  | | --- | --- | --- | |  | 没有 | 有 | | static | 实例变量 | 类变量（静态变量） | | final |  | 只读。 | | transient |  | 变量是临时常量。 | | volatile |  | 变量是共享变量，由多个并发线程共享。确保多个线程对变量的存取的正确性。 | |  | | |
| 方法成员   |  |  | | --- | --- | | 声明  (|public |protected |private )(static )?(final )?(abstract )?(native )?(synchronized )? **返回值数据类型名** **方法名**((**形参声明**(,**形参声明**)\*)?)  {  ( **语句**  )\*} |  | | |  |  |  | | --- | --- | --- | |  | 没有 | 有 | | static | 实例方法 | 类方法 | | final |  | 终结方法 | | abstract |  | 抽象方法 | | native |  |  | | synchronized |  | 确保多个线程对方法的访问的正确性。 | |  | | this |  | | |