

Java basics

Java Reference

Classes, main & output

Every Java program lives inside a class 类. It starts at a method 方法 named `main`. `System.out.println(...)` prints a line; `System.out.print(...)` prints with no new line.

```
public class Main {  
    public static void main(String[] args) {  
        System.out.println("Hello, world!");  
        System.out.println("I am learning Java.");  
    }  
}
```

- Java is compiled 编译: the compiler 编译器 checks the whole program, then it runs.
- Every statement 语句 ends with a semicolon ;.

```
public class Main { ... }  
    public static void main(String[] args) { ... }  
        System.out.println("Hello");
```

Exam tip: every program lives in a class; execution starts at main; end each statement with ;

Java programs live in a class and start at main

Variables & primitive types

A variable 变量 must declare 声明 its type. Common primitive types 基本类型: `int` (whole number), `double` (decimal), `boolean` (`true/false`), `char` (one letter).

```
public class Main {  
    public static void main(String[] args) {  
        int age = 17;  
        double price = 9.99;  
        boolean passed = true;  
        System.out.println(age + " " + price + " " + passed);  
    }  
}
```

Comments & style

A comment 注释 is `//` (one line) or `/* ... */` (a block). Indent the code inside braces `{ }`. Class names start Capitalised; variables and methods use camelCase 驼峰命名 (lowercase first).

```
public class Main {  
    public static void main(String[] args) {  
        // greet the user  
        String firstName = "Mei";  
        System.out.println("Hi, " + firstName);  
    }  
}
```

Common mistakes

- Every statement ends with a semicolon `;`.
- `main` must be exactly `public static void main(String[] args)`.
- `println` adds a new line; `print` does not.