

**Exercise 1.** Which of the following programming languages are compiled languages and which ones are interpreted languages?

- C
- C#
- Go
- Java
- JavaScript
- Julia
- Pascal
- Perl
- PHP
- Python
- R
- Ruby
- Rust
- Scala
- Swift

**Exercise 2.** Classify the following Java statements as correct or incorrect at compile-time. If a statement is incorrect, further classify it as syntactically incorrect, semantically incorrect, or both.

- a. `int x = Integer.parseInt("xyz");`
- b. `Math.sqrt(4);`
- c. `double x = Math.sqrt(1 + 2.0);`
- d. `int x = 42`
- e. `System.out.println(Math.pi);`
- f. `int x = true;`
- g. `while (10) { System.out.println("Hello, World") }`
- h. `System.out.println("Hello" + 123 + Math.PI + true);`
- i. `Object x = System.out.println("Hello, World");`
- j. `double x = 42;`

## SOLUTIONS

**Solution 1.**

Compiled languages:

- C
- C#
- Go
- Java
- Pascal
- Rust
- Scala
- Swift

Interpreted languages:

- JavaScript
- Julia
- Perl
- PHP
- Python
- R
- Ruby

**Solution 2.**

- `int x = Integer.parseInt("xyz");` (correct)
- `Math.sqrt(4);` (correct)
- `double x = Math.sqrt(1 + 2.0);` (correct)
- `int x = 42` (syntactically incorrect)
- `System.out.println(Math.pi);` (semantically incorrect)
- `int x = true;` (semantically incorrect)
- `while (10) { System.out.println("Hello, World") }` (syntactically and semantically incorrect)
- `System.out.println("Hello" + 123 + Math.PI + true);` (correct)
- `Object x = System.out.println("Hello, World");` (semantically incorrect)
- `double x = 42;` (correct)