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.

i. `int x = Integer.parseInt("xyz");`

ii. `Math.sqrt(4);`

iii. `double x = Math.sqrt(1 + 2.0);`

iv. `int x = 42`

v. `System.out.println(Math.pi);`

vi. `int x = true;`

vii. `while (10) { System.out.println("Hello, World") }`

viii. `System.out.println("Hello" + 123 + Math.PI + true);`

ix. `Object x = System.out.println("Hello, World");`

x. `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.

i. `int x = Integer.parseInt("xyz");` (correct)

ii. `Math.sqrt(4);` (correct)

iii. `double x = Math.sqrt(1 + 2.0);` (correct)

iv. `int x = 42` (syntactically incorrect)

v. `System.out.println(Math.pi);` (semantically incorrect)

vi. `int x = true;` (semantically incorrect)

vii. `while (10) { System.out.println("Hello, World") }` (syntactically and semantically incorrect)

viii. `System.out.println("Hello" + 123 + Math.PI + true);` (correct)

ix. `Object x = System.out.println("Hello, World");` (semantically incorrect)

x. `double x = 42;` (correct)