Java vs Python

CSC 210 Practice Exercises

What are the similarities and differences between Python and Java?

ANSWER

Differences:

- Python is an **interpreted** language (executes code line by line)

- Java is a **compiled** language that compiles code into bytecode

- Python is **dynamically typed**

- Java is a **static-typed** programming language (variable types need to be explicitly declared)

- Java checks the types of variables and expressions when the code is compiled. This means errors are caught early, before the code is executed.

- Python checks the types of variables and expressions when the code is executed. This means errors can only be caught during runtime.

- Java has access modifiers (public, protected, private) for instance variables and methods

- Java is generally faster than Python

- Java supports multithreading and concurrent programming

Similaries

- both are object-oriented programming (OOP) languages
- both use automatic garbage collection to manage memory
- both make use of inheritance and polymorphism