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Exercise 1: Compare conventions of naming and formatting between common languages C# and Java.

1. NAMING CONVENTIONS

A. Class Names

C#: PascalCase (e.g., CustomerOrder)

Java: PascalCase (e.g., CustomerOrder)

Similarity: Both languages use PascalCase for class names

Note: Both emphasize meaningful and descriptive class names

B. Method Names

C#: PascalCase (e.g., CalculateTotal)

Java: camelCase (e.g., calculateTotal)

Difference: C# uses PascalCase while Java uses camelCase

C. Variable Names

C#: camelCase (e.g., firstName)

Java: camelCase (e.g., firstName)

Similarity: Both use camelCase for variable names

Note: Both avoid single-character names except for temporary loop variables

D. Constants

C#: PascalCase for public constants, ALL\_CAPS for private

Java: ALL\_CAPS with underscores (e.g., MAX\_VALUE)

Difference: Java consistently uses ALL\_CAPS, while C# varies based on accessibility

E. Interface Names

C#: PascalCase with 'I' prefix (e.g., IDisposable)

Java: PascalCase without prefix (e.g., Runnable)

Difference: C# uses 'I' prefix, Java doesn't

2. FORMATTING CONVENTIONS

A. Braces

C#: Opening brace on new line (Allman style)

if (condition)

{

statement;

}

Java: Opening brace on same line (K&R style)

if (condition) {

statement;

}

Difference: Significant difference in brace placement

B. Indentation

C#: 4 spaces recommended

Java: 4 spaces recommended

Similarity: Both prefer 4 spaces for indentation

Note: Both discourage using tabs

C. Line Length

C#: Suggested 80-120 characters

Java: Suggested 80 characters

Difference: C# tends to be more lenient with line length

D. Comments

C#: XML documentation for public members

/// <summary>

/// Method description

/// </summary>

Java: Javadoc style

/\*\*

\* Method description

\*/

Difference: Different documentation syntax but similar purpose

3. GENERAL PRINCIPLES

- Both languages emphasize readability and maintainability

- Both recommend consistent spacing around operators

- Both discourage unnecessary comments

- Both recommend one statement per line

- Both emphasize meaningful naming over abbreviations

4. KEY DIFFERENCES

1. C# uses PascalCase more extensively (methods, properties)

2. Java is stricter with constant naming (always ALL\_CAPS)

3. C# uses interface prefix 'I', Java doesn't

4. Different brace placement philosophies

5. C# has more extensive XML documentation support

6. Java tends to be more conservative with line length limits