

COBOL: COBOL Concept Description

Java: Java/OO Similar Concept

++: What Java/OO adds to Concept

COBOL: Load Module/Program

Java: Class

COBOL: PERFORM

Java: method

can pass parameters to method, more like FUNCTION

++: other programs/classes can call methods in different classes if declared public. public/private gives designer much control over what other classes can see inside a class.

COBOL: Working Storage, statically linked sub-routine

Java: instance variables

++: (see next)

COBOL: Working Storage, dynamically loaded sub-routine

Java: Class variables

++: Java can mix both Class variables (called static, just the reverse of our COBOL example, and instance variables (the default).

## COBOL: PICTURE

Java: No real equivalent.

I therefore invented a method to mimic a ZZZ,ZZZ,... mask for integer input. Here is an example of `padLeft` that implements this logic. `padLeft` is also a good example of polymorphism. In COBOL, if you have different parameter lists you need different entry points. In Java, the types of parameters are part of the definition. For example:

```
* paddedString = u.padLeft(oldString,10); // pad left with blanks
* paddedString = u.padLeft(oldInt,10);    // comma inserted every 3 bytes.
* paddedString = u.padLeft(oldInt,10,2);  // " + .00 (2 is # decimal points).
* paddedString = u.padLeft(oldLong,10);   // comma inserted every 3 bytes.
* paddedString = u.padLeft(oldLong,10,2); // " + .00 (2 is # decimal points).
```

All the `padLeft` methods do essentially the same function. However, the ones that accept `int` or `long` values, will also insert the comma in every 3 bytes, and suppress leading zeroes. The number of decimal digits is my way of handling the issue of decimal rounding. This will work as long as you add or subtract integers with the same assumed decimal precision, and, if you multiply or divide, you manually handle the scaling.

COBOL: Decimal arithmetic

Java: Not in native Java, but IBM has implemented some BigDecimal classes.

COBOL: COPY or INCLUDE

Java: Inheritance

++: Much more powerfull!

COBOL: ON EXCEPTION

Java: try/throw/catch

++: can limit scope of error detection (see following)

COBOL: OPEN

Java: Input Streams

++: Automatic error detection, both a blessing and a curse.

COBOL: WRITE

Java: write (yes, really).

COBOL: CLOSE

Java: close method

COBOL: READ

Java: read...