



Programming Paradigms

Introduction



paradigm

Paradigms

"a worldview underlying the theories and methodology of a particular subject".

It is a set of ideas and concepts that describe some way of thinking.

Heliocentrism



Geocentrism



paradigm shift

Heliocentrism and Geocentrism by Malin Christersson

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The background is a dark, monochromatic illustration of a forest. Large, leafy trees frame the top and sides of the image. In the lower center, a small, light-colored tent is pitched on a clearing. The overall mood is mysterious and serene.

*what is
programming?*

Programming?

"Computer programming is the process that professionals use to write code that instructs how a computer, application or software program performs.

At its most basic, computer programming is a set of instructions to facilitate specific actions."

Step 1. Ask the user for a number

Step 2. Store that number to a variable called x.

Step 3. While x is greater than 7 do step 4 otherwise proceed

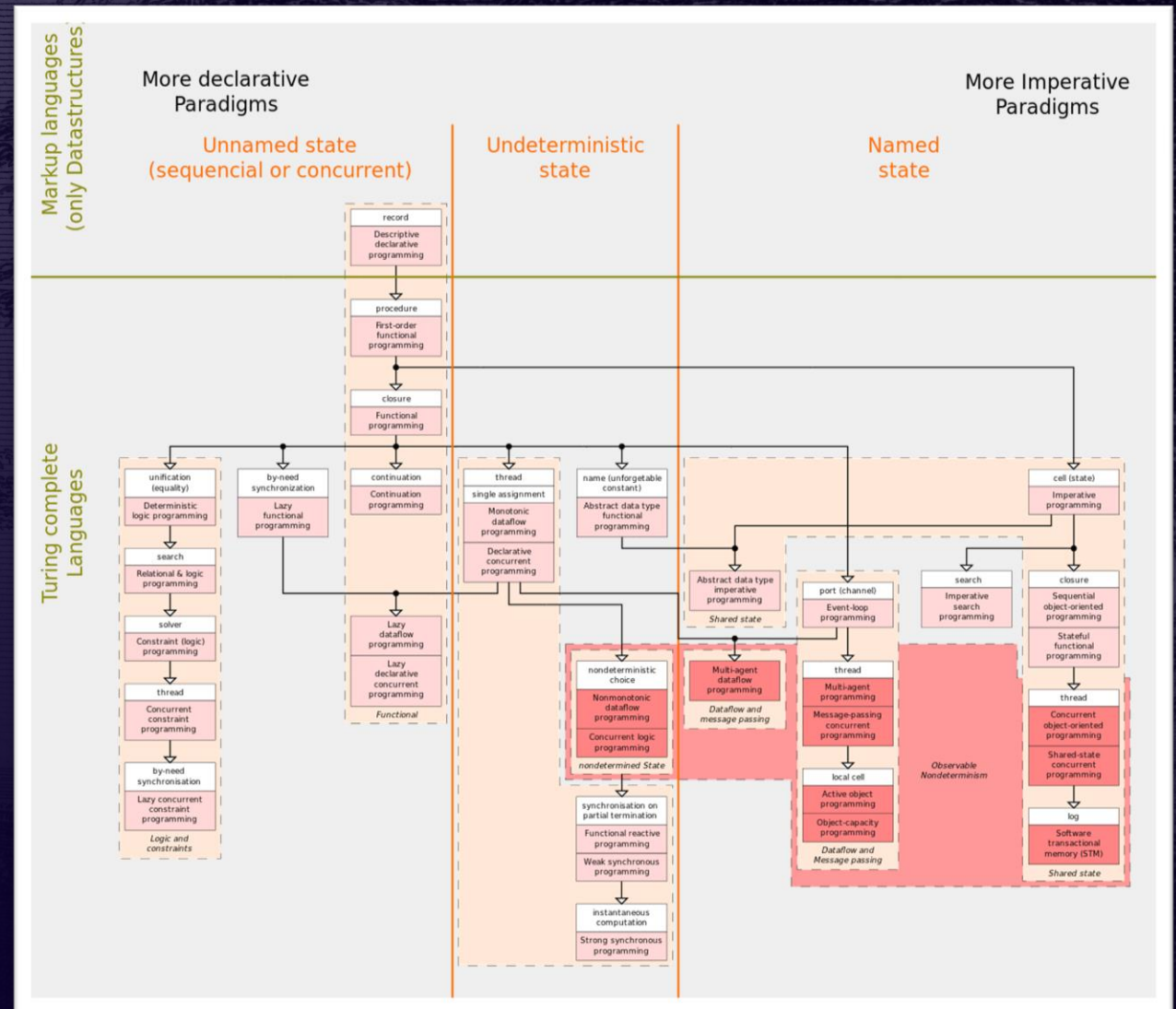
Step 4. Subtract 7 to x and store the difference to x

Step 5. Show the user the value of x

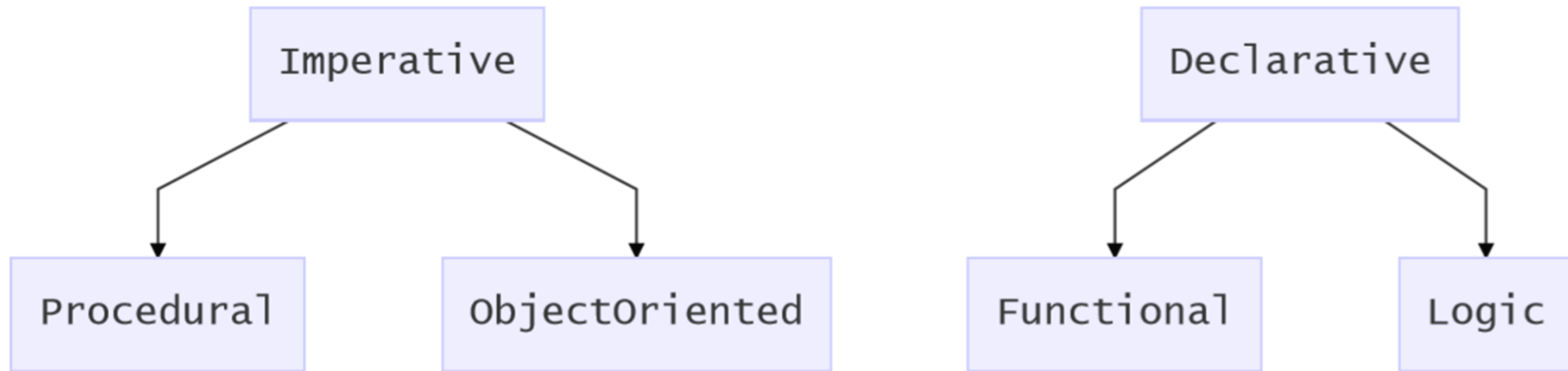
Alternative To Imperative

For someone who has been exposed to C, C++ and nothing else, you might feel that the natural way to code is the *imperative* way when in fact there are alternatives.

Taxonomy of programming languages



Four main paradigms



Multi-paradigm Programming Languages

As programming languages age and grow, more features are added and these features may be borrowed from other paradigms.

Multi-paradigm Programming Languages

This is the reason why established and mainstream programming languages like Java, C++, or Python tend to be multi-paradigm.

Multi-paradigm Programming Languages

The “*multi-paradigmness*” of programming languages tend to be the reason why some programming language designers have abandoned the notion of building based on a strict paradigm.

Multi-paradigm Programming Languages

Instead a language designer would choose specific features that they want to be supported on their programming language and implement it.

References

In Lexico.com, Available at <https://www.lexico.com/en/definition/paradigm>
Accessed August 28, 2020

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