

CMSC 124

**DESIGN AND IMPLEMENTATION OF
PROGRAMMING LANGUAGES**

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LANGUAGE CATEGORIES

Programming languages are
grouped into four major
paradigms.

1.

Imperative languages

describe computation by **changing a program's state** using a **sequence of commands** to be performed.

2.

Functional languages

use **mathematical functions** for all computations and **avoids state** and **mutable data**.

3.

Logic languages

use **predicate calculus** for its statements and is an example of a **rule-based language**.

4.

Object-oriented languages

grew out of imperative languages,
adding support for **objects** that
encapsulate data and **methods**.

SOME SMALLER CATEGORIES

1.

Scripting languages

2.

Visual languages

provide simple ways to build graphical user interfaces, e.g., .NET languages.

3.

Mark-up/Programming Hybrid Languages

are **not necessarily PLs**, but are used in software development, e.g., **HTML**.