Programming Refresher

Course Introduction

Introduction to Python

What Is Python?

- Python is an interpreted, object-oriented, and high-level programming language.
- It was developed by Guido Van Rossum and released in 1991.
- Python is one of the most popular and fastest-growing programming languages.

Benefits of Python

The benefits of Python are as follows:

Open Source:

Python is freely accessible for anybody to use for any purpose.

High-level language:

Python code is very understandable since the syntax is much simpler and shorter.

Python libraries:

Python has an extensive library, module, and package support.

Powerful data structures:

Python's sophisticated data structures enable data organization in an easily accessible manner based on use cases.

Benefits of Python

The benefits of Python are as follows:

Object-oriented programming:

This helps in a structured way of programming in Python.

Interpreted language:
Python is an interpreted language; therefore, the compilation process is bypassed, which boosts efficiency.

Dynamically typed:

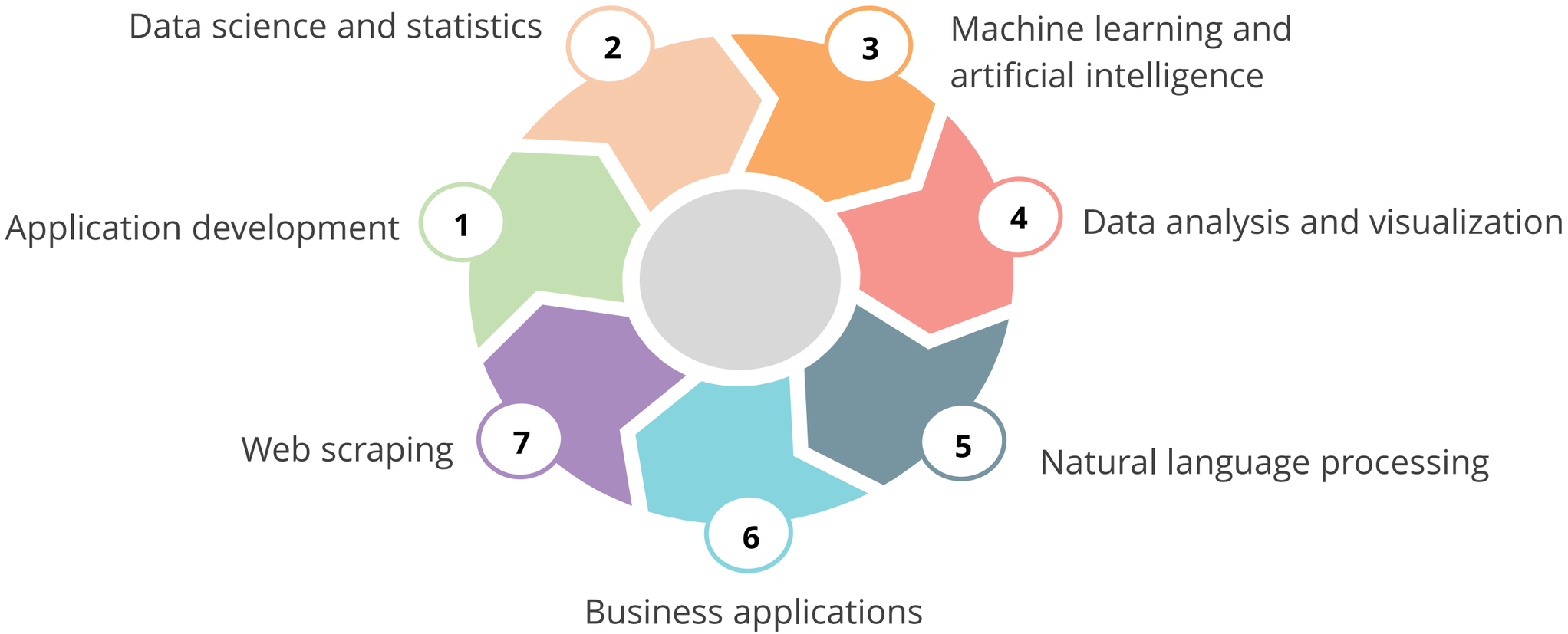
It is not required to provide the data type because it is assumed when data is assigned.

Flexibility:

Python's versatility enables users to create any type of application.

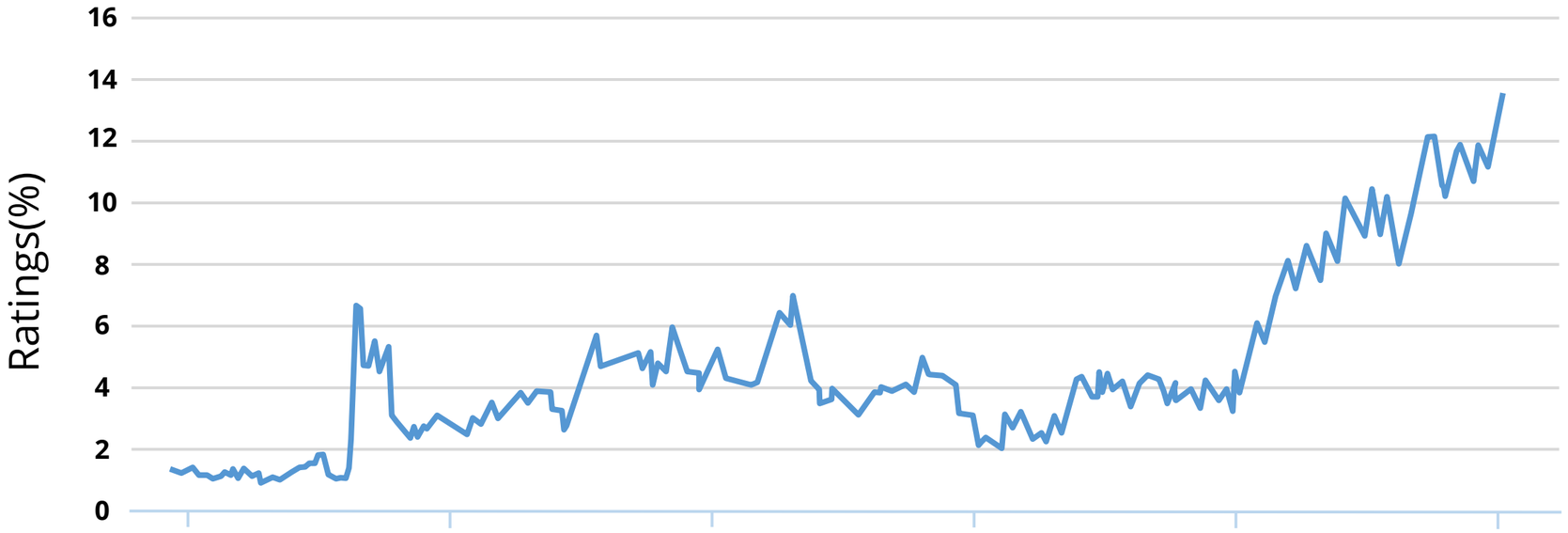
Application Domain of Python

The following are the application domain where Python is employed.



Demand for Python

The demand for Python is rapidly increasing and is expected to continue to grow significantly.



The image above displays the popularity graph of Python in the last few years

Learning Path

Course Outline

1

Course Introduction

2

Programming Basics

3

Introduction to Python Programming

4

Python Data Types and Operators

Course Outline

5

Conditional Statements and Loops

6

Python Functions

7

OOPs Concepts with Python

8

Threading

Programming Basics

This lesson outlines the following concepts:

- Provides an overview of software
- List the different programming models
- Explain the structure of programming

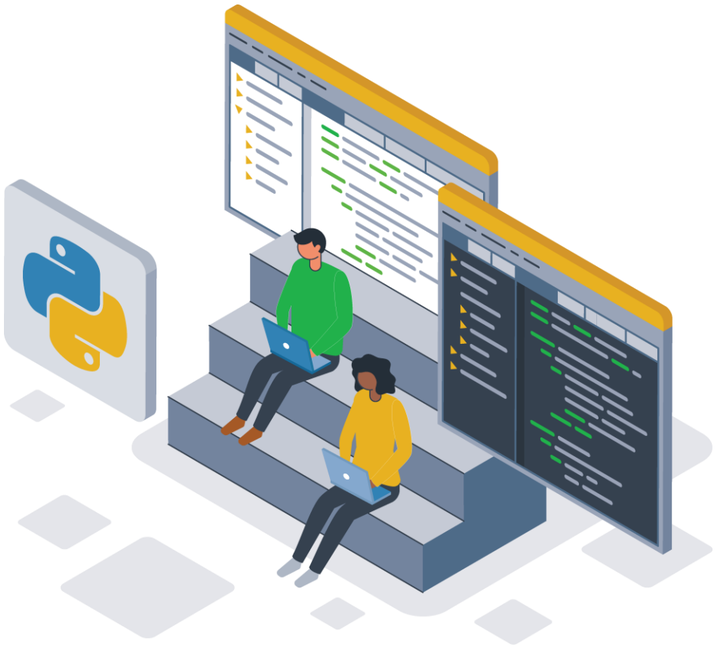
Introduction to Python Programming

This lesson discusses the following concepts:

- Definition of Python, history of Python, and advantages of Python
- Installing Python
- Python IDE
- Writing the first Python program

Python Data Types and Operators

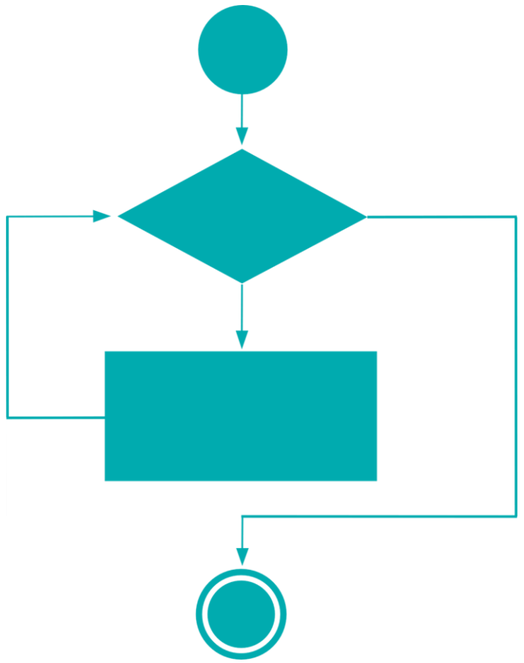
This lesson covers the following topics:



- Data types and data assignment
- Python operators
- Strings in Python

Conditional and Loop Constructs

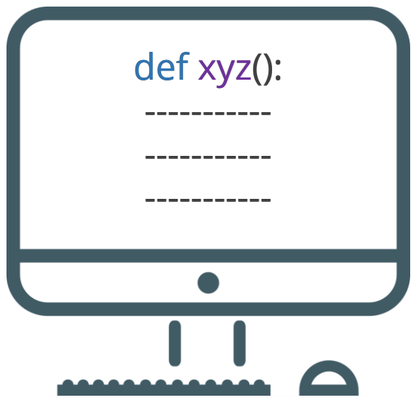
The concepts covered in this lesson includes:



- Decision control structures in Python
- Types of loops
- Loop control statements, such as break and continue

Python Functions

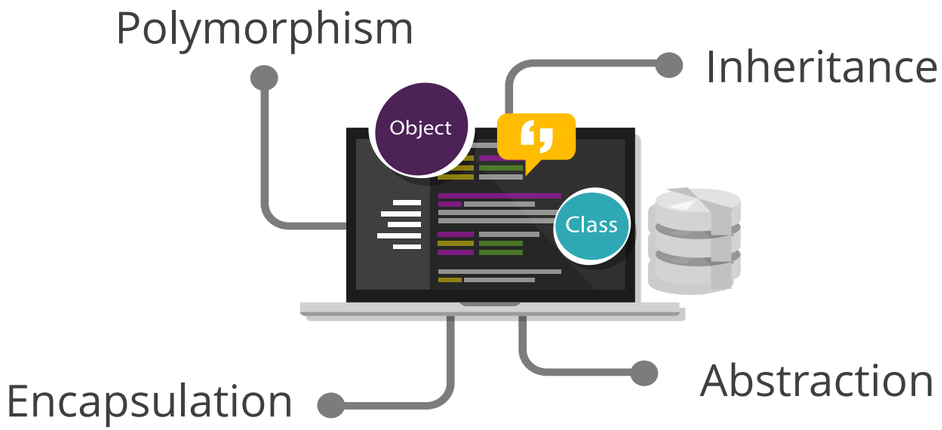
This lesson includes the following concepts:



- Functions in Python
- Function arguments
- Return statements
- Scope of a variable
- Generators function
- Function types

OOPs concepts with Python

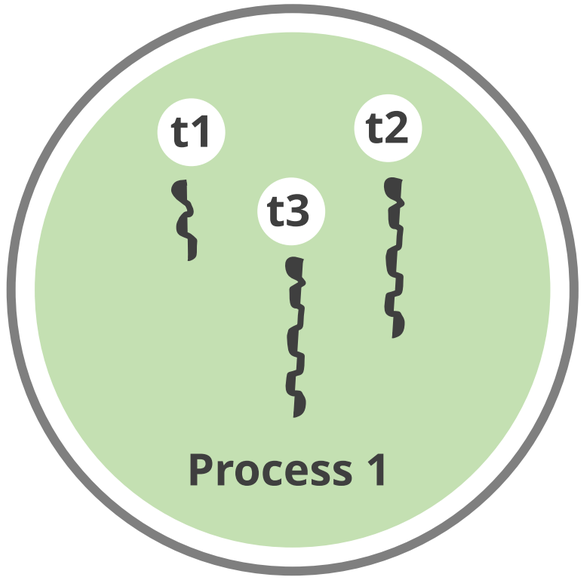
The concepts discussed in this lesson includes:



- What are OOPs?
- Objects and classes
- Access modifiers
- Encapsulation
- Inheritance
- Polymorphism
- Abstraction

Threading

This lesson discusses the following concepts:



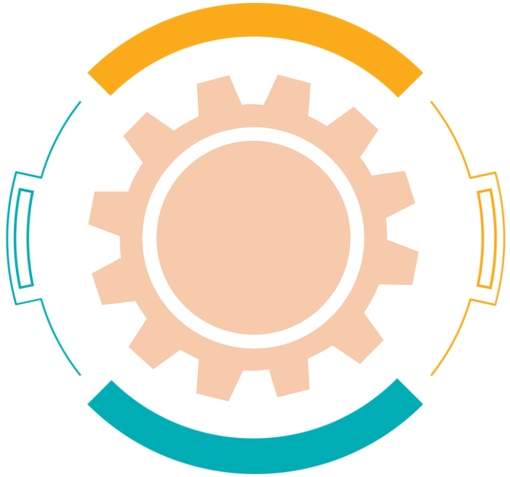
- Threading
- Multi-threading
- Advantages of multi-threading
- Disadvantages of multi-threading
- Synchronizing threads

Program Components

Program Components

Following are the program components of this course.

E-books:
Downloadable PDF files of all lessons to use as quick reference guides



Assisted practices:
To help you develop skills and make you an asset to any organization

Let's get started!