Welcome to this CoGrammar Lecture:

Getting Started with Python

The session will start shortly...

Questions? Drop them in the chat.
We'll have dedicated moderators
answering questions.


SKILLS FOR LIFE
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Department for Education
CoGrammar
Getting Started with Python
March 2024

Agenda

- The Terminal
- Setting Up Dev Environments
- Data Types
- Conditional Statements

The Terminal

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What is a Terminal ?

The terminal, also known as the command line or shell, is a text-based interface used for interacting with your computer's operating system. Instead of relying on graphical elements like buttons and icons, you communicate with the computer by typing commands. It allows you to perform various tasks such as navigating the file system, executing programs, and managing files efficiently.

Basic Commands

- `pwd` - Print the current working directory.
- `ls` - List the contents of the current directory.
- `cd <directory>` - Change directory to the specified directory.
- `mkdir <directory>` - Create a new directory.
- `touch <file>` - Create a new file.
- `rm <file>` - Remove a file.
- `cp <source> <destination>` - Copy a file or directory.
- `mv <source> <destination>` - Move or rename a file or directory.

Command Line Tips

Windows

1. Utilise commands like `cd` and `dir` in the Command Prompt for navigation and listing directory contents.

2. Windows-specific shortcuts like `Ctrl+C` for copy and `Ctrl+V` for paste can be used in the Command Prompt.

3. Consider using PowerShell for more advanced command-line tasks and automation on Windows systems.

Mac

1. Use `cd` to change directories and `ls` to list directory contents in the Terminal.

2. Mac-specific shortcuts like `Cmd+C` for copy and `Cmd+V` for paste work in the Terminal as well.

3. Customise your Terminal appearance and behavior through Terminal preferences.

Setting up your Dev Environments

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Establishing a development environment is crucial for software development as it involves installing essential tools, libraries, and dependencies to effectively write, test, and debug code.

Installation:
Visit the official website and download the installer for your operating system: VsCode Download Link Website

Install VSCode:
Run the installer and follow the on-screen instructions to install VSCode on your system.

Settings:
Customize VSCode settings by going to File > Preferences > Settings (or by pressing Ctrl+,). You can configure editor settings, themes, and extensions preferences here.

Data Types

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What are Data Types ?

In Python, like in many programming languages, data types define the kind of data that can be stored and manipulated in a program. Understanding data types is fundamental because it allows you to work with different kinds of information effectively.

Here are some of the basic data types in Python:

Integer (`int`):

- An integer represents whole numbers without any decimal points. It can be positive, negative, or zero. Integers are used to represent quantities that can be counted or measured in whole units.
  - Example:

```
age = 25
count = 10
```

Data types continued...

Float (`float`):

- A float represents numbers with decimal points. Floats are used to represent quantities that can have fractional parts, such as measurements, percentages, or values resulting from mathematical calculations.
  - example:

```
height = 5.7
temperature = 98.6
```

Data types continued...

String (`str`):

- A string represents a sequence of characters, such as letters, numbers, or symbols, enclosed within single quotes ('') or double quotes (""). Strings are used to represent text data in Python.
  - example:

```
name = 'Alice'
message = "Hello, world!"
```

Data types continued...

Boolean (`bool`):

- A boolean represents one of two values: `True` or `False`. Booleans are used in logical operations and conditional statements to make decisions based on whether a condition is true or false.
  - example:

```
is_student = True
is_adult = False
```

Data types continued...

NoneType (`None`):

- NoneType represents the absence of a value or a null value. It is used to indicate that a variable does not have a value assigned to it.
  - example:

```
result = None
```

Let's take a break

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Conditional Statements

Conditional statements are like decision-making tools in programming. They help you decide what to do in different situations based on specific conditions. Depending on whether a condition is true or false, you can choose to run different parts of your code. It's a way to make your program smarter and more flexible, allowing it to adapt to different scenarios as needed.

Types of Conditional Statements

Conditional statements help your program make decisions and adapt its behavior accordingly. There are primarily three types of conditional statements in programming:

```
if condition:
    # code block to execute if condition is true
elif another_condition:
    # code block to execute if another_condition is true
else:
    # code block to execute if none of the above conditions are true
```

Conditional Statements cont.

- if statement:
  - It executes a block of code if a specified condition is true.

```
age = 16
if age >= 18:
    print("You are eligible to vote")
```

Conditional Statements cont.

- if-else statement:
  - It executes one block of code if the condition is true and another block if the condition is false.

```
age = 16
if age >= 18:
    print("You are eligible to vote")
else:
    print("You are not eligible to vote yet")
```

Conditional Statements cont.

- if-elif-else statement:
  - It allows you to check multiple conditions and execute different blocks of code depending on which condition is true.

```
age = 85
if age >= 90:
    print("Class: A")
elif age >= 80:
    print("Class: B")
elif age >= 70:
    print("Class: C")
else:
    print("Class: D")
```

Questions and Answers

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Thank you for attending

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