

Indentation Concept of Python

In Python, indentation plays a crucial role in defining the structure and flow of the code. Unlike many other programming languages that use braces `{}` or keywords like `begin` and `end` to denote blocks of code, Python uses indentation to indicate blocks of code.

The key points about Python indentation are:

1. Indentation Levels: Python code blocks are defined by their indentation level. A block of code with the same level of indentation is considered part of the same block.

2. Whitespace: Python uses whitespace (spaces or tabs) to define indentation. While either spaces or tabs can be used for indentation, it's recommended to be consistent within your codebase. Most Python style guides, including PEP 8 (the official Python style guide), recommend using four spaces for each indentation level.

3. Indentation Errors: Incorrect indentation can lead to syntax errors or unintended behavior in Python programs. For example, if the indentation within a block is inconsistent, Python raises an `IndentationError`. It's essential to ensure that all lines within the same block have the same indentation level.

4. No Explicit Block Delimiters: Unlike many other programming languages, Python does not use explicit block delimiters (such as braces `{}`) to mark the beginning and end of blocks. Instead, the indentation level determines the structure of the code. This makes Python code more readable but also requires careful attention to indentation.

Example:

if True:

```
    print("This line is indented, so it's part of the if block.")
```

if False:

```
    print("This line is further indented, so it's part of the nested if block.")
```

```
    print("This line is still part of the outer if block.")
```

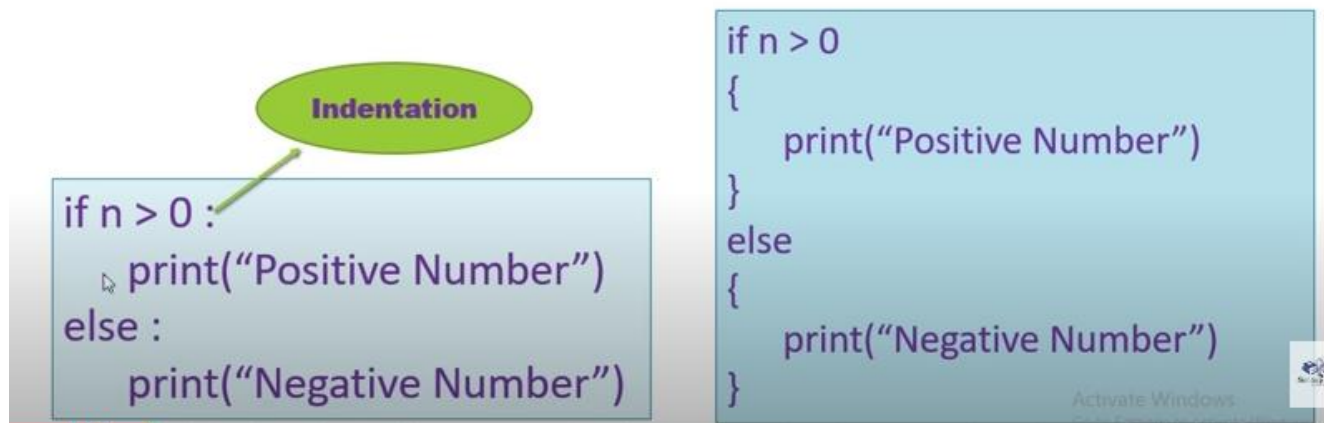
```
print("This line is not indented, so it's outside of the if block.")
```

In the above example, the lines indented under the **if** statements belong to those blocks. The **print** statement outside of any indentation is not part of any block and is executed unconditionally.

In summary, Python's indentation concept enhances code readability and enforces a consistent coding style. It's essential to pay attention to indentation while writing Python code to avoid syntax errors and maintain clarity.

Follow the below structure:

- Python requires indentation as a part of syntax.
- Indentation signifies the start and end of block of code.
- Programs will not run without correct indentation.



In Python

In Java