

## 1. Printing to the Console:

Python

```
print("Hello, World!")
```

This will print "Hello, World!" to the console.

## 2. Comments:

Python

```
# This is a single-line comment

"""
This is a multi-line comment.
It can span multiple lines.
"""
```

Comments are used to add explanations or notes to the code. They are not executed and are purely for human readability.

## 3. Indentation:

Python uses indentation (whitespace) to define blocks of code. This is different from many other languages that use curly braces `{}`. Indentation is crucial for Python and helps maintain readability.

Python

```
if True:  
    print("This is indented")
```

#### 4. Variables and Data Types:

Python is dynamically typed, meaning you don't need to specify the data type of a variable explicitly.

Python

```
# Integer  
num = 10  
  
# Float  
pi = 3.14  
  
# String  
name = "Alice"  
  
# Boolean  
is_valid = True
```

#### 5. String Concatenation:

Python

```
first_name = "Sandip"
```

```
last_name = "Gupta"  
full_name = first_name + " " + last_name
```

## 6. Getting User Input:

Python

```
name = input("Enter your name: ")  
print("Hello,", name)
```

## 7. Conditional Statements:

Python

```
if condition:  
    # code if condition is True  
elif another_condition:  
    # code if another_condition is True  
else:  
    # code if none of the conditions are True
```

## 8. Loops:

### a. For Loop:

Python

```
for i in range(5):  
    print(i)
```

## b. While Loop:

Python

```
count = 0  
while count < 5:  
    print(count)  
    count += 1
```

## 9. Lists:

Python

```
my_list = [1, 2, 3, 4, 5]
```

## 10. Functions:

Python

```
def greet(name):  
    print("Hello,", name)
```

## 11. Classes and Objects:

Python 

```
class Person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

    def greet(self):
        print(f"Hello, my name is {self.name} and I'm {self.age} years
old.")
```

## 12. Modules and Imports:

Python 

```
import math

result = math.sqrt(25)
```

## 13. Exception Handling:

Python 

```
try:
    # code that might raise an exception
except ExceptionType as e:
```

```
# code to handle the exception
```

## 14. Working with Files:

Python 

```
with open('myfile.txt', 'w') as file:  
    file.write('Hello, World!')
```

These are some of the basic elements of Python syntax. They form the foundation upon which you can build more complex programs.

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