# Basics of Python

**“Coding is an art of writing without doing any single comma mistake”**

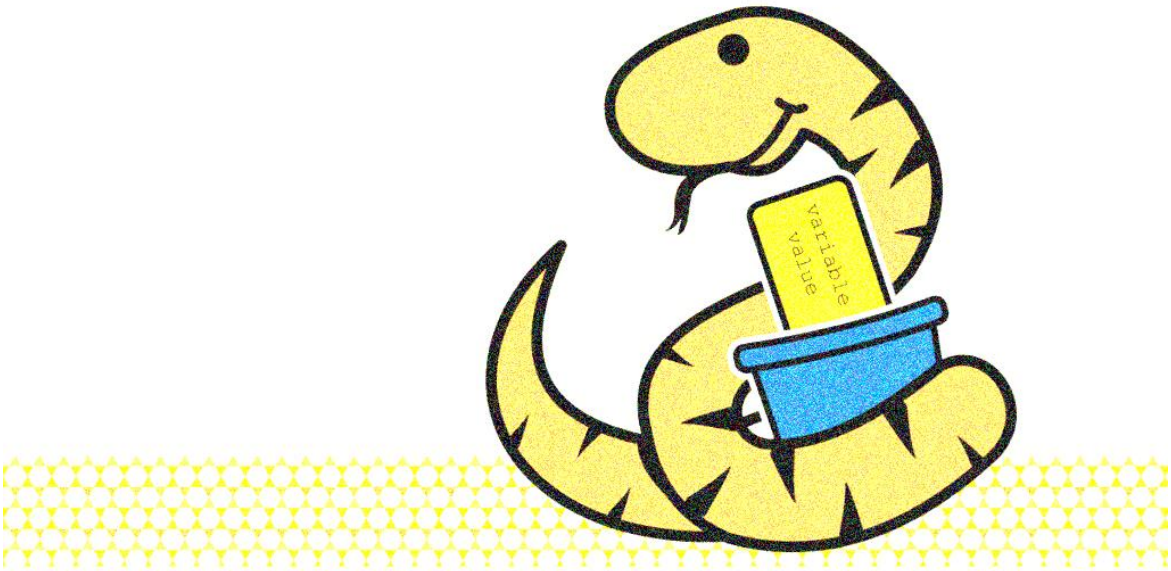
1. **Variables**: Variables are containers for storing data values. In Python, you can create a variable and assign a value to it using the equals sign =. For example:

python

ex-code

x = 5

name = "John"

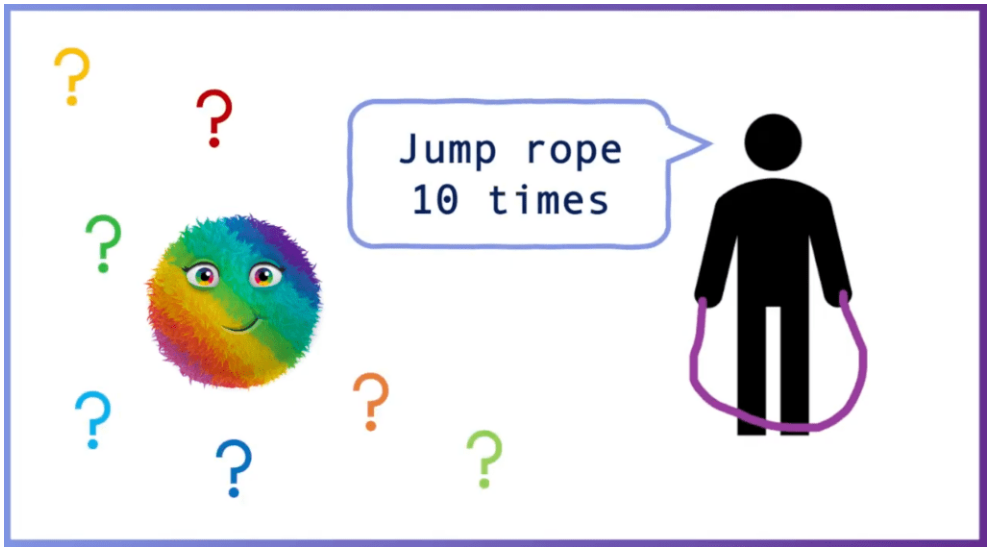



2. **Data Types**: Python has several built-in data types:
    - **Integer (int)**: Whole numbers, e.g., 5, -3.
    - **Float (float)**: Numbers with decimal points, e.g., 3.14, -0.5.

- **Character {char}:** alphabets like any name “Kabi”


3. **Loops**: Loops are used to execute a block of code repeatedly.

   A below given image is the best example of loop with condition have you ever see in your life. (In which a one condition is attached with the looping that is jump 10 times so you will jump 10 time or you will do same things 10 times)



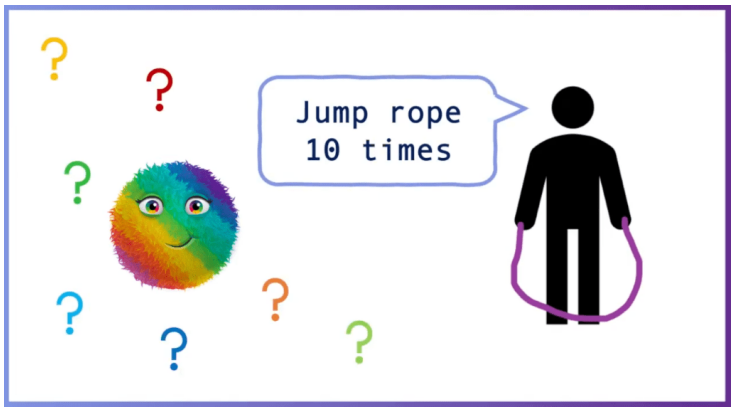

Loops are of two types

- **For Loop**: Iterate over a sequence (like a list or range). Meaning range should be defined like in below image range is 10

python

ex-code

```
for i in range(10):
  print(i)
```



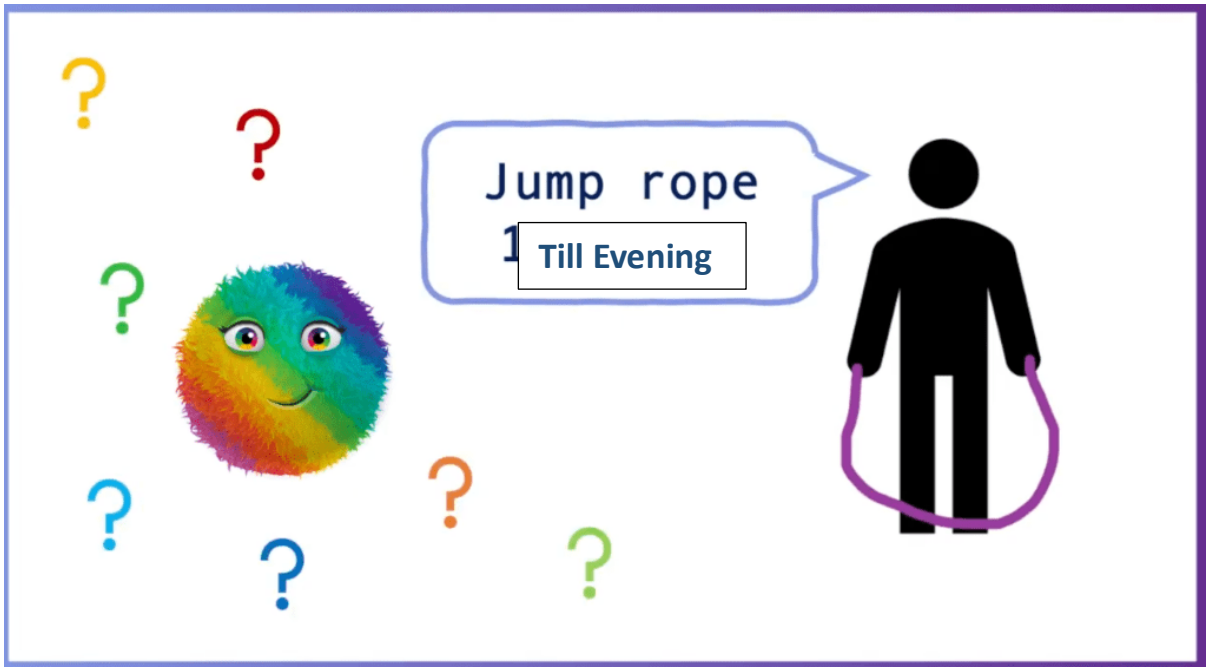

- **While Loop**: Execute a block of code as long as a condition is true.

python

ex-code

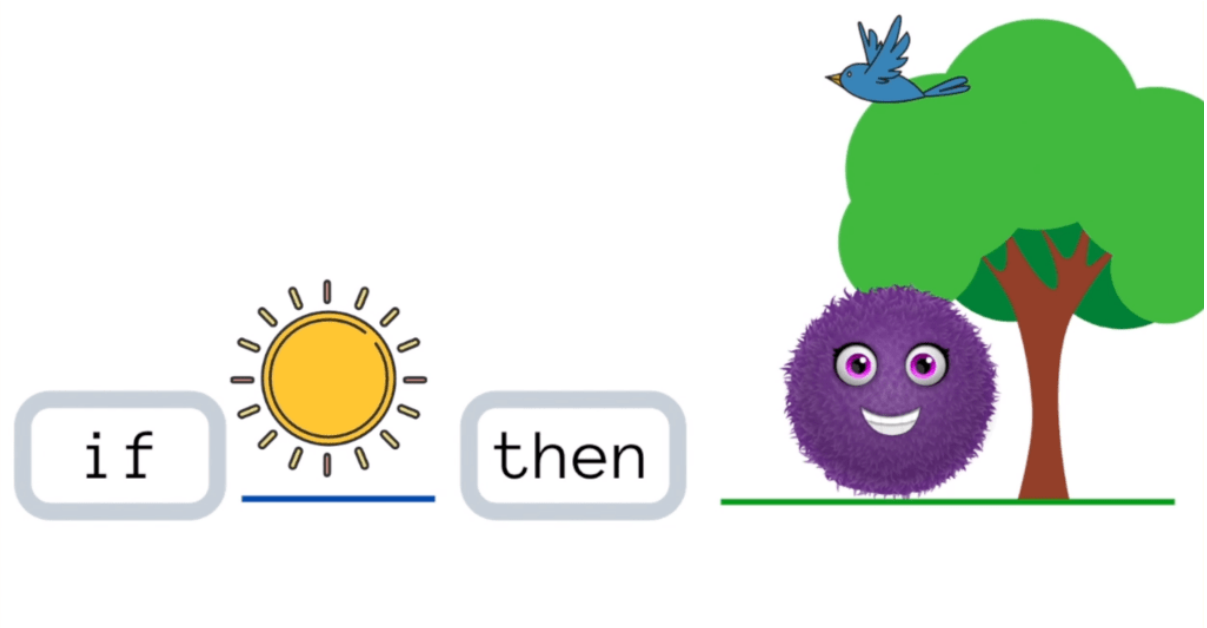
i = 0 while i < 5:

print(i) i += 1



4. **Conditional Statements**: Conditional statements are used to execute different actions based on different conditions.

"If the sun rises, you will wake up, and the birds will start to fly."




- **If Statement**: Execute a block of code if a condition is true.

python

ex-code

x = 6Am

if x >=7Am:

print("Good Morning")

- **If-else Statement**: Execute one block of code if the condition is true and another block if it's false.

  "If the sun rises, you will wake up, and the birds will start to fly." Else still night time

python

ex-code

x = 6Am

if x >=7Am:

print("Good Morning")

else:

print("Night")

- **If-elif-else Statement**: Execute different blocks of code for different conditions.

  **“**These statements are used when more than conditions are existed in coding”

python

ex-code

x = 0

if x > 0:

print("Positive")

elif x < 0:

print("Negative")

else:

print("Zero")

5. **Functions**: Functions are blocks of reusable code that perform a specific task.


"The best example of functions is the notebooks you have made for particular subjects. They will help you in sorting out topics during exams. If you use rough copies instead,

sorting important data at critical times will become very complex. Therefore, programmers add functions in coding for their convenience."

python

ex code

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


greet("John")
```

**Important Note:** When you will write any code then you don’t have to miss any single comma because each and every sign has its own significance in coding.


**Any questions?**

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