Python is a programming language and can be used on a server to create web applications.

**Python is a popular programming language. It was created in 1991 by Guido van Rossum**.

It is used for:

* web development (server-side),
* software development,
* mathematics, system scripting.

**What can Python do?**

1. Python can be used on a server to create web applications.
2. Python can be used alongside software to create workflows.
3. Python can connect to database systems. It can also read and modify files.
4. Python can be used to handle big data and perform complex mathematics.
5. Python can be used for rapid prototyping, or for production-ready software development.

**Why Python?**

1. Python has a simple syntax similar to the English language.
2. Python has syntax that allows developers to write programs with fewer 3- lines than some other programming languages.
3. Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.
4. Python can be treated in a procedural way, an object-orientated way or a functional way.

**Important Facts About Python:**

1. Python3 is the most recent version of python
2. Python2 is not up to date other than security updates
3. Python relies on indentation using whitespace to define the scope while other programming language use curly brackets.
4. Python uses triple quotes at the beginning and end of the docstring:

**Creating Variables**

Unlike other programming languages, Python has no command for declaring a variable.

A variable is created the moment you first assign a value to it. Variables do not need to be declared with any particular type and can even change type after they have been set.

**Variable Names**

1. A variable can have a short name (like x and y) or a more descriptive name (age, carname, total\_volume). Rules for Python variables:
2. A variable name must start with a letter or the underscore character
3. A variable name cannot start with a number
4. A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ )
5. Variable names are case-sensitive (age, Age and AGE are three different variables)

**Python Numbers**

There are three numeric types in python

1. Int.
2. Float
3. Complex

x = 1

y = 2.8

z = 1j

print(type(x)) Output: Integer

print(type(y)) Output: Float

print(type(z)) Output: Complex

**Float** can also be scientific numbers with an "e" to indicate the power of 10.

x = 35e3.

**Complex numbers** are written with a "j" as the imaginary part:

Get the input from the user

x = input()

Python Operators

Operators are used to perform operations on variables and values.

Python divides the operators in the following groups:

Arithmetic operators

Assignment operators

Comparison operators

Logical operators

Identity operators

Membership operators

Bitwise operators

**And Operation:**

Returns True if both statements are true

**Or Operation:**

Returns True if one of the statements is true

Not Operator

Reverse the result, returns False if the result is true

Membership operators are used to test if a sequence is presented in an object: