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#python intoduction

What is python?

Python is a popular programming language that's used for many purposes, including:

- Web applications: Python is often used to build websites.
- Software development: Python is used to develop software.
- Data science: Python is used for data science and machine learning.
- tasks: Python can be used to automate tasks.

What can python do?

• python can be used on a server to create web aploications. python can be used along software to create workflows. python can connect to data base system. It can also read and modify files. *python can be used for rapid prototyping, or for prodution ready software development.

Why python?

• python works on differnt platforms (windows, mac, linux, Raspberry Pi, etc). • python has a simple syntax that allows developers to write programs with fewer lines than some other programming languages. • python runs on an interputer system, meaning that code can be executed as soon as it is written. This means that prtotyping can be very quick. • python can be treated in a procedural way, an object-oriented way or a functional way.

Good to know..

• The most recent major version of python is python 3, which we shall be using in this tutorial. However, python 2, although not being updated with anything other than security updates, is still quite popular. • In this tutorial python will be written in a text editor.It is possible to write python in an integrated development environment, such as Thony,pycharm, Netbeans or eclipse which are particulary useful when managing larger collections of python files.

Who inveted python?

Python was created by Guido van Rossum, and first released on February 20, 1991. While you may know the python as a large snake, the name of the Python programming language comes from an old BBC television comedy sketch series called Monty Python's Flying Circus.

Why python called python?

When he began implementing Python, Guido van Rossum was also reading the published scripts from "Monty Python's Flying Circus", a BBC comedy series from the 1970s. Van Rossum thought

he needed a name that was short, unique, and slightly mysterious, so he decided to call the language Python.

Evolution of python…..

The language was finally released in 1991. When it was released, it used a lot fewer codes to express the concepts, when we compare it with java, C++ & C. its main objective is to provide code redability and advanced developer productivity. Following are the illustrations of different versions of python along with the timeline

PYTHON 1.0 - JANUARY 1994 PYTHON 1.5 - DECEMBER 31, 1997 PYTHON 1.6 - SEPTEMBER 5, 2000 PYTHON 2.0 - OCTOBER 16, 2000 PYTHON 2.1 - APRIL 17, 2001 PYTHON 2.2 - DECEMBER 21, 2001 PYTHON 2.3 - JULY 29, 2003 PYTHON 2.4 - NOVEMBER 30, 2004 PYTHON 2.5 - SEPTEMBER 19, 2006 PYTON 2.7 - JULY 3, 2010 PYTHON 3.0 - DECEMBER 3, 2008 PYTHON 3.1 - JUNE 27, 2009 PYTHON 3.2 - FEBRUARY 20, 2011 PYTHON 3.3 - SEPTEMBER 29, 2012 PYTHON 3.4 - MARCH 16, 2014 PYTHON 3.5 - SEPTEMBER 13, 2015 PYTHON 3.6 - DECEMBER 23, 2016 PYTHON 3.7 - JUNE 27, 2018 PYTHON 3.8 - OCTOBER 14, 2019

Python 3.12.1 is the latest stable version.

The two of the most used versions has to python 2.x & 3.x. There is a lot of comprtition between the two and both of them seem to have quite a number of different fanbases.

Advantages of the python programmimg :

- FREE AND OPEN - SOURCE

Python is a free and open - source programking language, and one of the key benefits of python programming is its accessbility and versatility. It is considered one of the main advantage of the python programming language and that's why it has become more popular.

- EASY TO LEARN

Python is simple to learn, even for beginners. it is a high - level dynamic programming language with english - like syntax. These factors contribute to the developers ease of learning and adoption.

- VAST LIBRARY SUPPORT

Python includes a large library that the user can acess. there are many advantages of high - level language use for development. python standard libraray is large and contains almost every function imaginable.

- GREATER PRODUCTIVITY

Python is a very efficient programming language. python's simplicity feature allows developers to concentrate on resolving problems with the language. pythin users save - time by learning the syntax and behaviour of the programming language rather than doing more work.

#Disadvantages of python programming :

- poor memory efficency python uses a singificant amount of memory. it is one of the main limitations of python and that's why some of the developers don't use it.

- slow speed

When it comes to the speed python is slower than the java or a c. python is an interpreted, dynamically typed language. Because python is an interpreted language, each line of code must be carefully organised and read before execuation. This take even longer and results in a slower execution process.

- DATABASE ACCESS

Python simplifies programming. However, when it comes to the database, it encounters a number of complications. when comoared to well-known technologies such as JDBC and ODBC, pythin suffers from the disadvantages of bring underceveloped and rudimentary when it comes to interaction with the database and data access layer.

- RUNTIME ERRORS

Python users raised a number of issues with the language's design. Runtime errors in python isconsidered one of the most main disadvantages of the python programming languages.

1 Apps created by using the python :

2 *Instagram

Amongh the best python apps, intagram is the most popular. As you know, this is the app that changed the world of digital phtotgraphy. made it instant, more accessible and widespread, expanded lines of creativity and defined new rules in marketing. it allows users to take pictures, edit and share them online using a camera as simple as a smartphone

#* Spotify

Spotify is the world's largest streaming service, with an annual revenue approaching $10 billion.This makes it a major market player and also one of the top python users among the bussinesses. The company preferred "PYTHION DEVELOPMENT" because of its speed ans advanced data analytics that the languages offers. This enables spotify to manage functiomns such as radio and discover, whcih are based on the personal musical preferences of users.

3 * Uber

One of the most useful mobile apps made in python is uber. A ride hailling service that also offers food delivery, peer-to-peer ridesharing and bicycle-sharing ,uber has a lot of calcultions to do. Think about it;the company operates in 785 metropoltian areas worlwide and is estimated to have 122 million users. that's a lot of math.But again, python handles large amounts of data and is easy to learn and work with, which are two reasons why python is so popular. these benefits make it an obvious choice for companie whose applications need to be relaibe secure and rely on developers around the world to maintaine it.

4 pythons first simple programming which prints HELLO WORLD :

[1]:
```
print("Hello, World")
```

```
Hello, World
```

5 COMMENTS IN PYTHON

Comments can be used to explain python code.There are two types of comments * single line comment

- multi line comment

It can used to make the code more readable, and they also used to prevent execution when testing code.Comment starts with the # , and python will ignore them.

6 FOR example;

[1]:
```
#This is a comment
print("Hello karthik *-*")
```

```
Hello karthik *-*
```

comments can be placed at the end of the line, and python will ignore the rest of the line.

7 For example:

[2]:
```
print("Execute me bro!") #This is a comment
```

```
Execute me bro!
```

comments does not have to be text that explains the code, it can also be used to prevent from executing code,

For example;

[3]:
```
#print("I am executed !")
print("I am executed!")
```

```
I am executed!
```

8 Multi line comments

python does not really have a syntax for multiple comments.To add a mutline comment you could insert # for each line...

For example:

[4]:
```
#This is what called multiline comment bro
#which is written in
#more than just one line
print("This is multi line comment < _ >")
```

```
This is multi line comment < _ >
```

We can also use the multilline string. since python will ignore string literals that are not assigned to a ariable, you can add a mutliline string, which is triple quotes in our code and place oue comment inside it.

For example;

[5]:
```
"""
Bro this is what
i am talking
about...!
"""
print("You got it right * - *")
```

```
You got it right * - *
```

As long as the string is not assigned to a variable, python will read the code, but then ignore it, and you have made a multiline comment.

9 Keywords in python

python has a set of keywords that are reserved words that cannot be used as variable names, function names, or any other identifiers. In python there are 35 keywords.

[6]:
```
import keyword
python_keyword=keyword.kwlist
print(python_keyword)
len(python_keyword)
```

```
['False', 'None', 'True', 'and', 'as', 'assert', 'async', 'await', 'break',
'class', 'continue', 'def', 'del', 'elif', 'else', 'except', 'finally', 'for',
'from', 'global', 'if', 'import', 'in', 'is', 'lambda', 'nonlocal', 'not', 'or',
'pass', 'raise', 'return', 'try', 'while', 'with', 'yield']
```

[6]:
```
35
```