2, History of python

→ Python is an interpreted programming language developed by Guido van Rossum a dutch programmer in the late 1980's as a hobby project at Centrum Wiskunde & enformatica in Netherlands.
Initially python had only a base version and by time New version's where released. At present python has 3 versions running

i, Python 1.x
ii, Python 2.x
iii, Python 3.x

Python 1.x was the first versions released in 1991 it lasted almost till 2000 when newer version was released.
Python 1.x came along with many features such as. functions, exception handling and also had core data types such as list, dict, str etc. It was mainly focused on or known for its simplicity & Readability. and this version was by early 2000 by those notable version named as python 1.6.

After python 1.x series thus came python 2.x version which was released by late 2000's on Oct 2000 This newer model came with a lot of new improvement and new features where it had list comprehensions, Garbage collection (using reference counting) and Unicode support. The major difference it had to from 1.x was better mly management & support of complex apps. and this version ended by 'January 1 2020' and no longer supports with its most stable version 2.4 & widely used version as 2.7.

Even though 2.x lasted till 2020 python 3.x was released on 'december 2008' and had ton of new features such as:

* Better unicode support (str type stores unicode by default).
* print is now a function (print())
* Improved syntax & libraries
* Type hints, async-programming, f-strings etc

major difference from 2.x series was that 3.x version had no backward compatibility it required code changes. and 3.x version is the one that is still used around with till date with its popular versions as:

3.6 which ~~supported~~ introduced f-strings

3.8 - 3.10 walrus operator, pattern matching, typing improvement

* 3.12 faster runtime, better error messages

~~3.x is also version that supports HTML only~~

3.x is the only active version present today.

1, Pros & Cons of python

Pros

- Easy to learn : Simple syntax
- Versatile : used in many type of app dev
- Huge Community support } Tons of libraries & resources.
- Cross platform : Works on most OS.
- Readable code / Indentation : Emphasizes clean, Maintainable programs.
- Extensive libraries : built in modules for almost any task
- Integration friendly : Works well with other languages.

Cons

- Slower execution : Interpreted language (not fast as C++, or Java.
- High mly usage : Not ideal for mly critical apps.
- Weak in mobile computing : Rarely used for mobile apps.
- Runtime errors : Dynamic language, so bugs can appear at runtime.
- Not great for multi threading : Due to Global Interpreter lock (GIL).
- Not ideal for low level programming : Lack direct access to system language.
- Slower startup time : Can be inefficient for short, quick running scripts or small apps.