{GUI} GRAPHIC USER INTERFACE

title

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- > python GUI libraries and frameworks
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framework vs library

library:

A library is essentially a set of functions that you can call. Each call does some work and returns control to the programmer.

framework:

In order to use it you need to insert your behavior into various places in the framework.

The framework's code then calls your code at these points

example:

A framework is a skeleton where the application defines the "muscles" of the operation by filling out the skeleton with programmer code or other libraries

frameworks have deeper learining curve

python GUI libraries and frameworks

	type	best for	description
tkinter	library	Simple GUI applications	Comes pre-installed with Python, easy to use
pyQT	framework	Modern look	Steep learning curve, large size
pyside	framework	similar to pyQT	similar to pyQT
kivy	framework	Touch-based applications, mobile apps	-
руСТК	library	Linux-based GUI applications	-
wxpython	library	Native Look & Feel	application will look and behave like a regular app on the operating system (Windows, macOS, or Linux)

best choices based on

douments, community and online tutorials

tkinter vs pyQT

	QT	tkinter
type	framework	library
license	GPL V3 If the application you are developing is not open-source, you must pay for a commercial license	open source and free
design	final product has modern look	final product has stylish look
UI builder	yes drag and drop	no
installation	needs separate installation	included in python standard library
beginner friendly	not at all steep learning curve prequisite: GUI exprience	yes



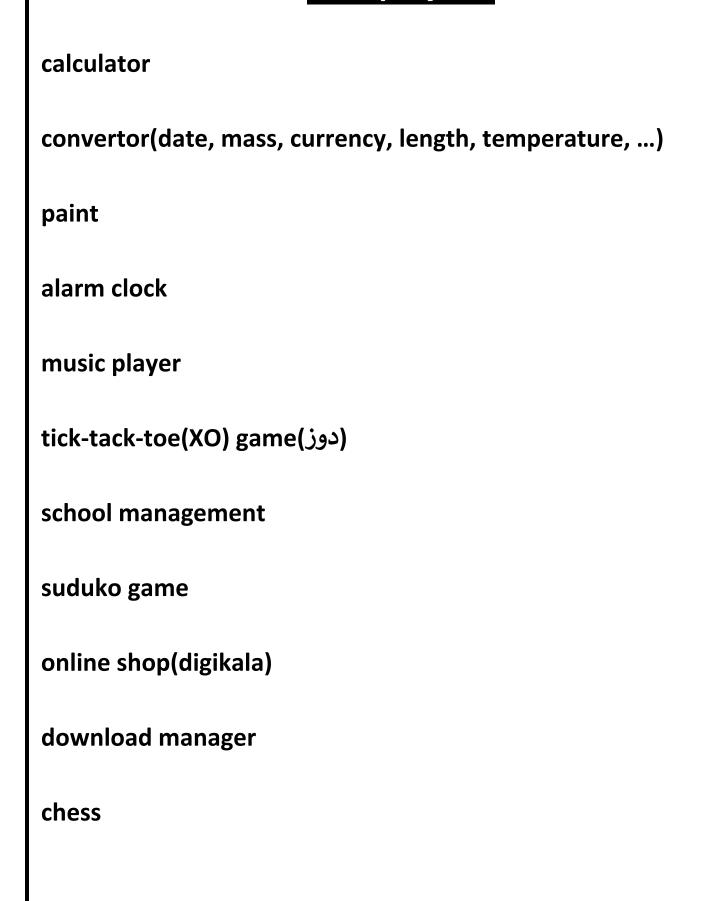
tkinter

اپلیکیشن های ساده تر افراد تازه کار با GUI

pyQT

آپلیکیشن هایی که از نظر گرافیکی پیشرفته ترند نیازمند آشنایی با مفاهیم و مقدمات GUI

final projects



python setup & confuguration on windows machine

check python installation from CMD

python --version

download python

https://www.python.org/downloads/

install python

next next next Important:

Check the box [Add Python to "PATH"] this makes Python accessible from the command line

package manager

a tool that helps you install, update, and manage libraries (packages) in Python.

It makes it easy to use third-party modules without manually downloading and configuring them.

python's default package manager: pip

check pip installation

pip --version

install/upgrade pip

python -m pip install --upgrade pip

download and install IDE

IDLE VSCODE ATOM PYCHARM SPYDER ...

hello world program

without venv

virtual environment

With Python's venv module, you can create isolated development environments that use different versions of libraries or Python itself for different projects

so for example if the module you are using is updated, it doesn't affect your project unless you say so

```
enabling virtual environment:
```

cmd in same folder as source code:

python -m venv <path>

enable a venv in VS Code:

open Command Palette(ctrl + shift + P)

choose [Python: Select Interpreter]

run code:

triangle icon in top right or ctrl + F5

resource recommendation

corey schafer youtube channel https://www.youtube.com/@coreyms tkinter playlist

persian subtitle

youtube viedeo settings(small gear icon in bottom right) subtitles auto-translate persian

next session
pyhton basics
setup tkinter/QT
GUI hello world