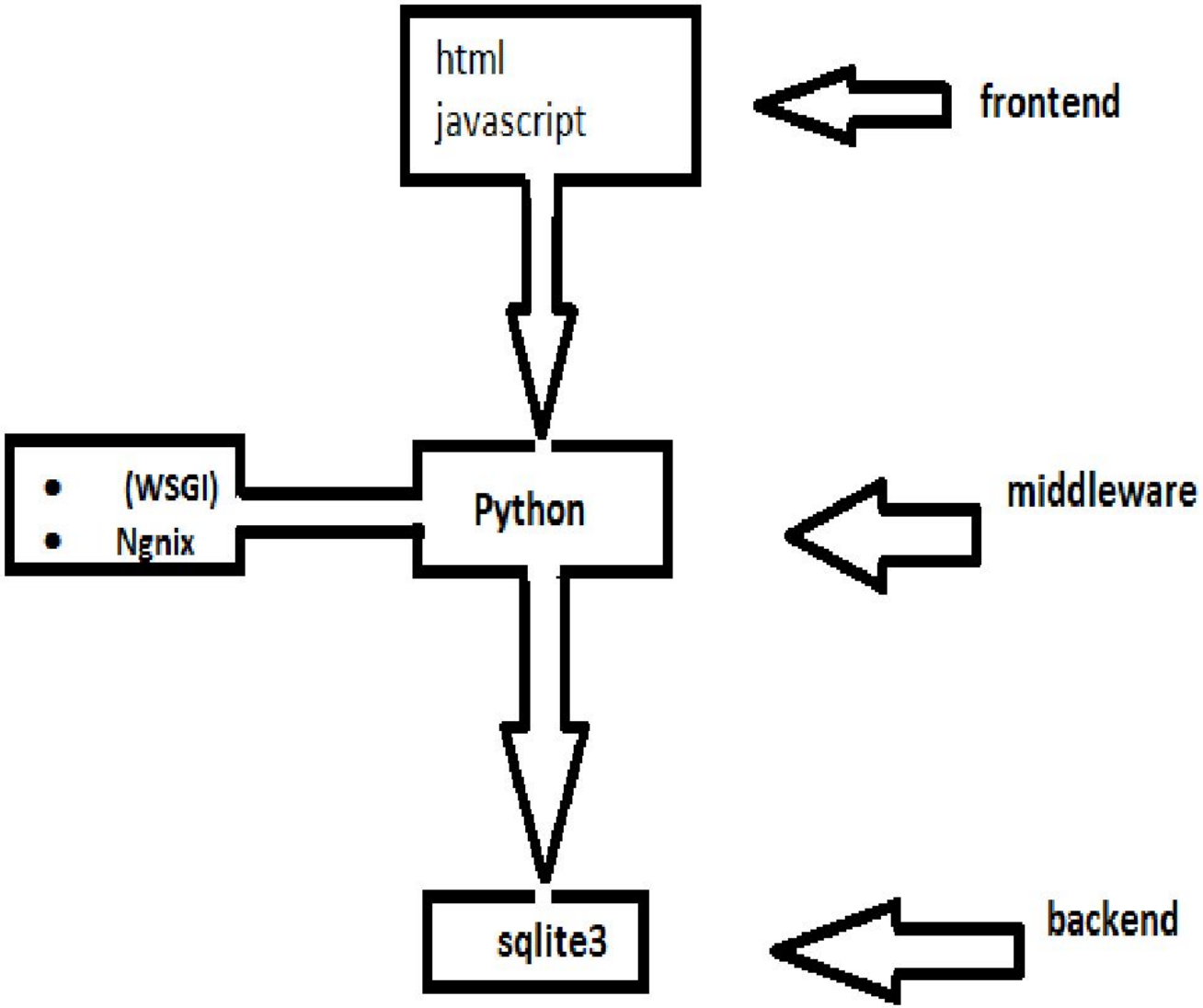
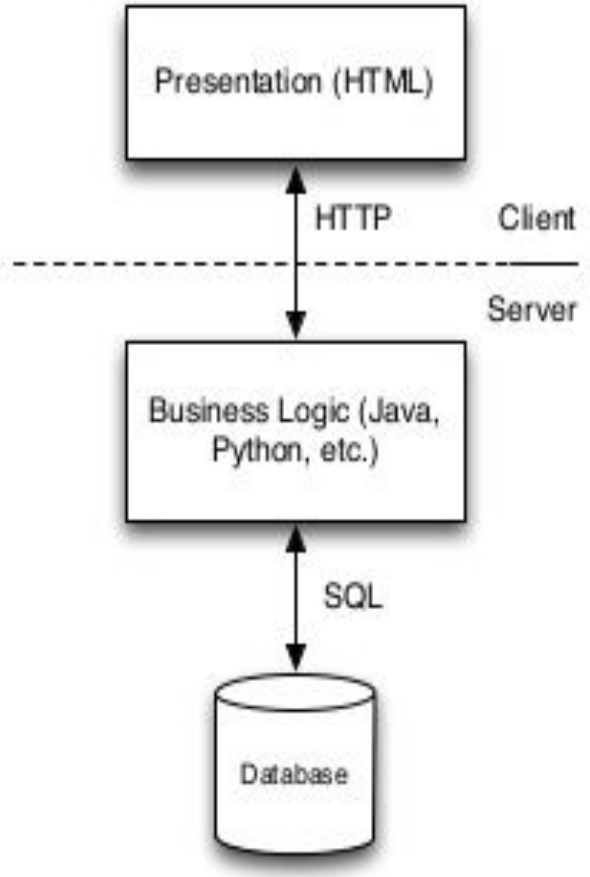
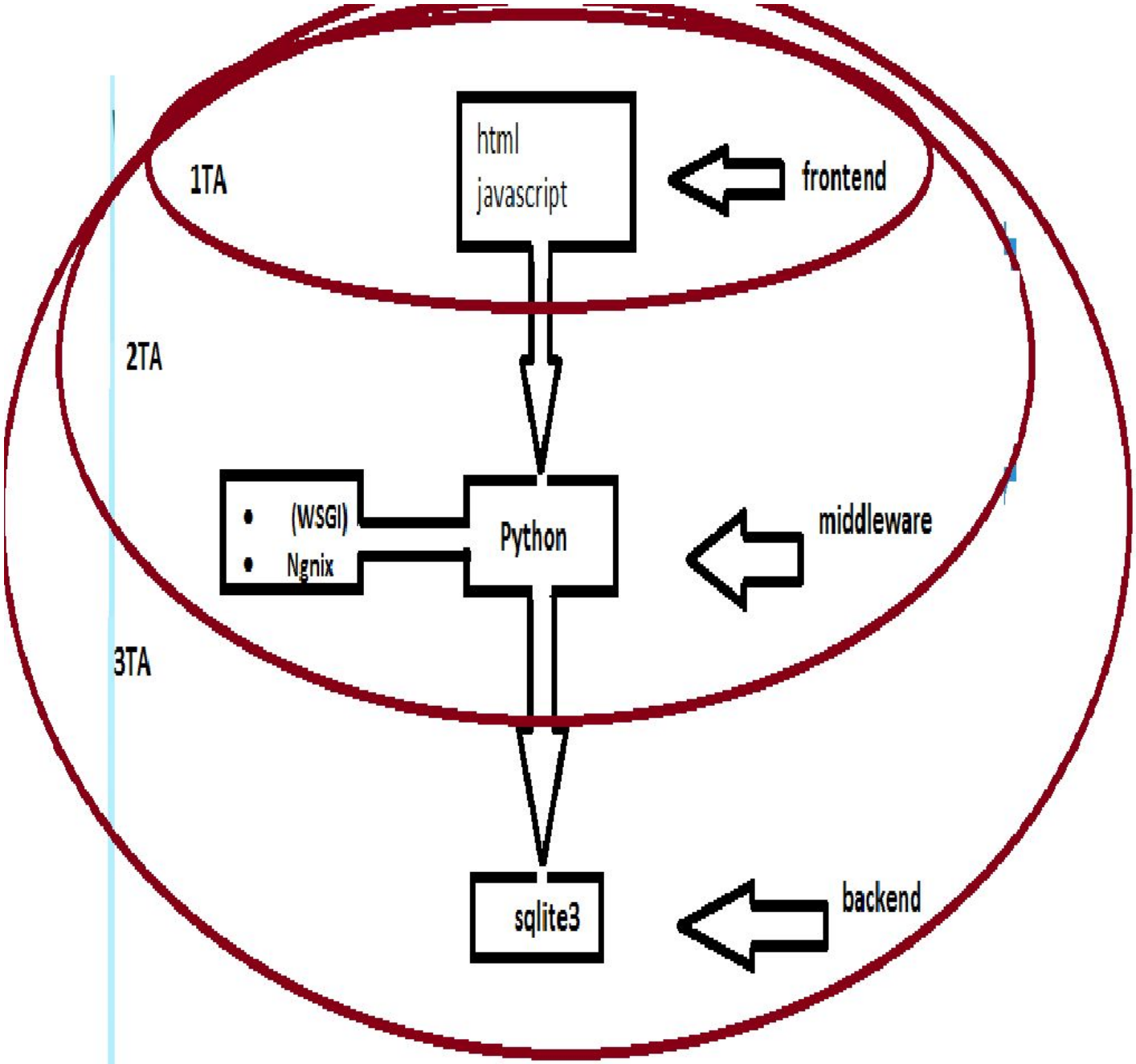
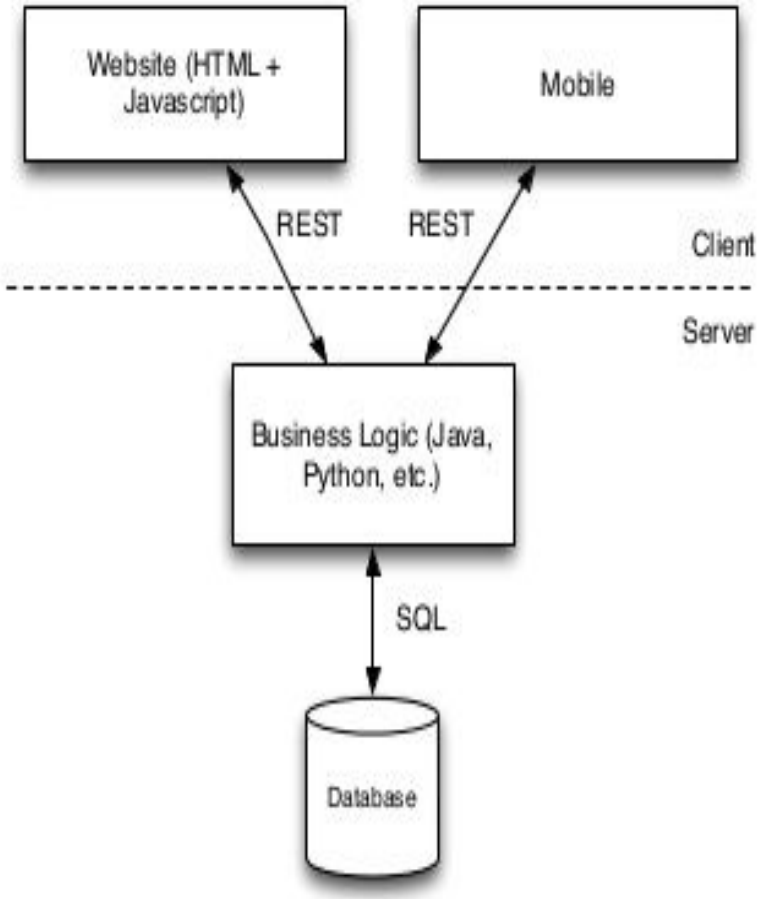

html
javascript
frontend
(WSGI)
Ngnix
Python
middleware
sqlite3
backend

3 tier architecture




1TA
html
javascript
frontend
2TA
(WSGI)
Ngnix
Python
middleware
3TA
sqlite3
backend

3 tier architecture (once again)

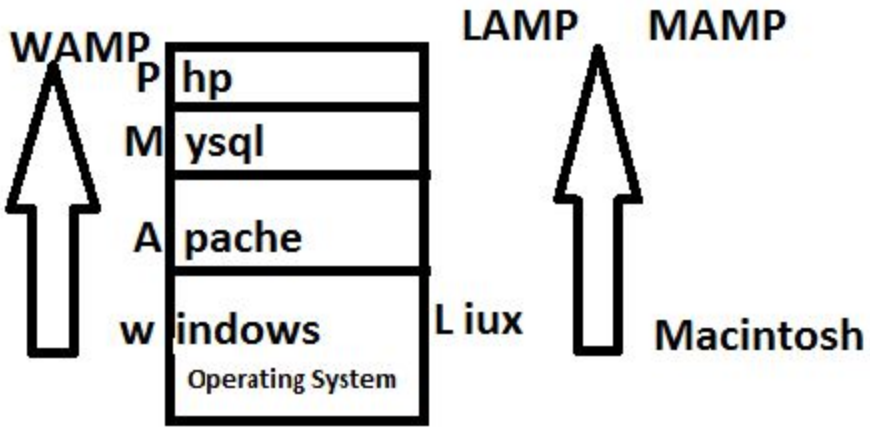


Two of the existing web server solutions are known as:

1) LAMP (Linux, Apache, MySQL, PHP)

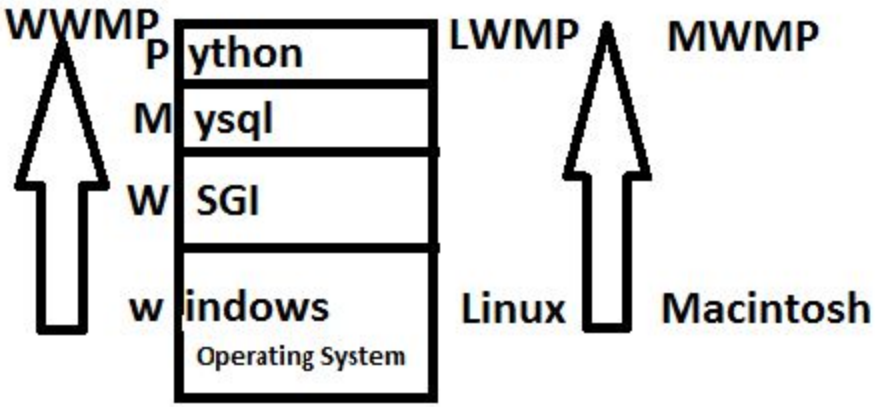
and

2) WISA (Windows, IIS, SQL Server, ASP)

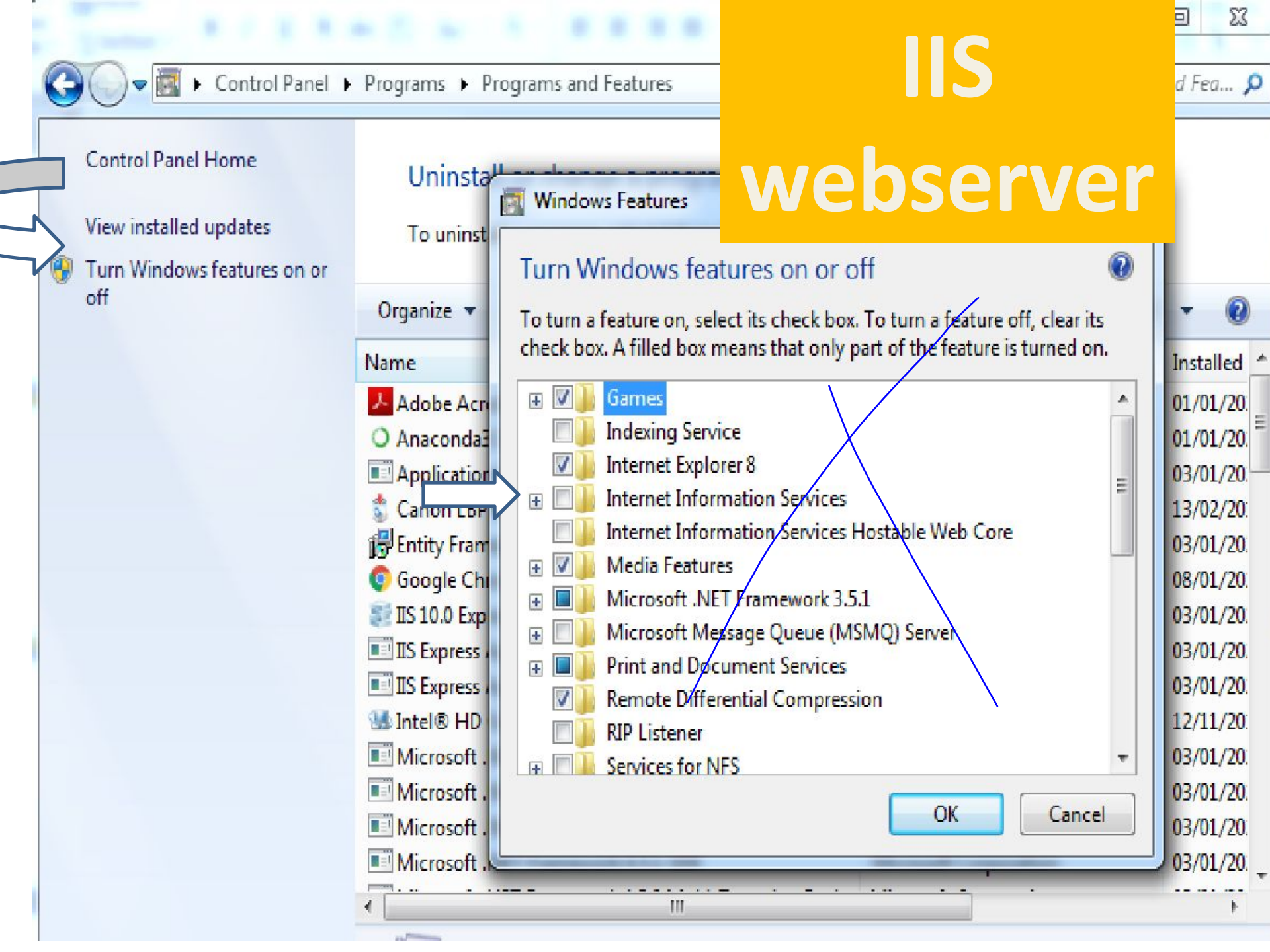


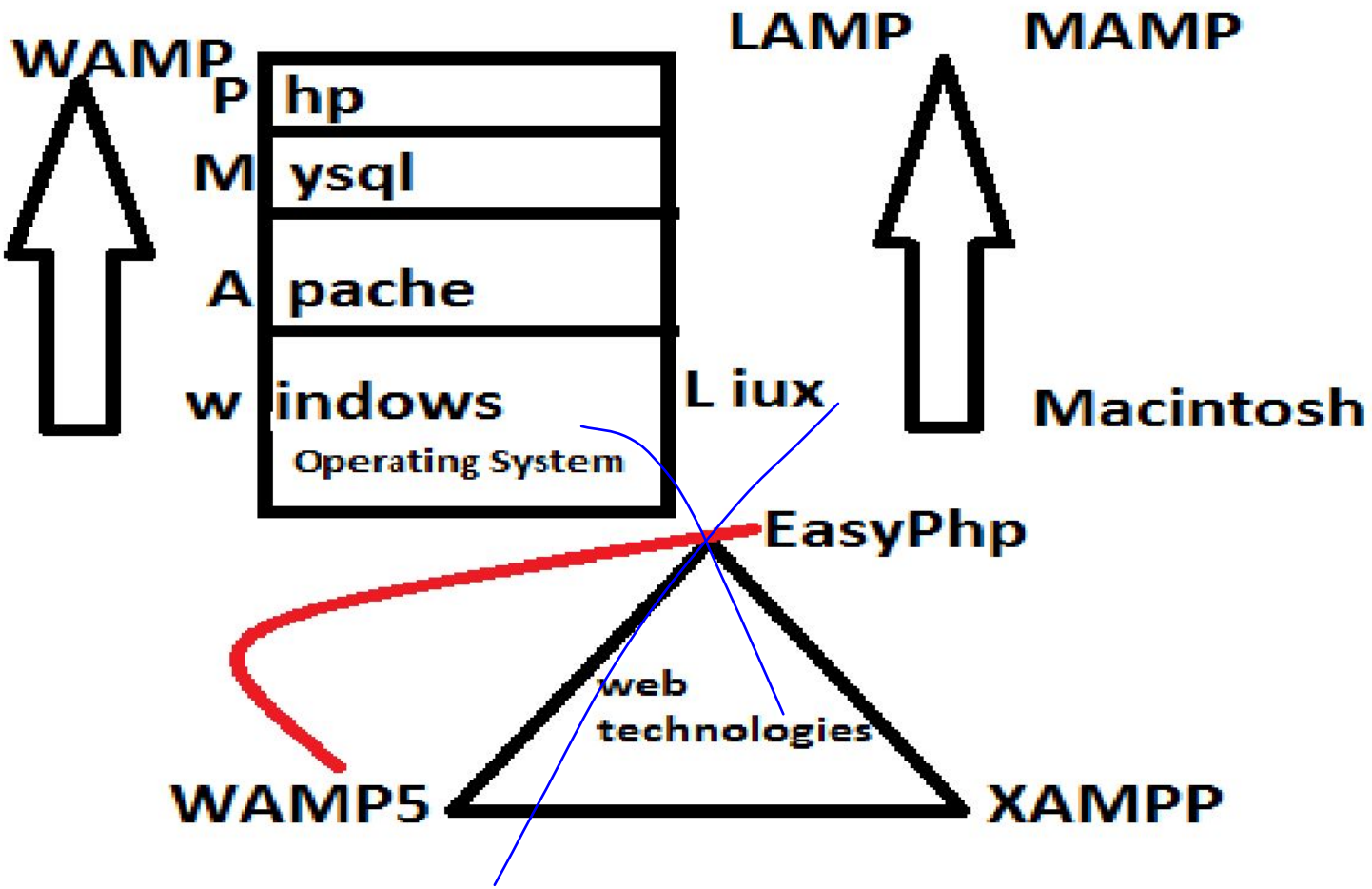
Two of the existing web server solutions are known as:

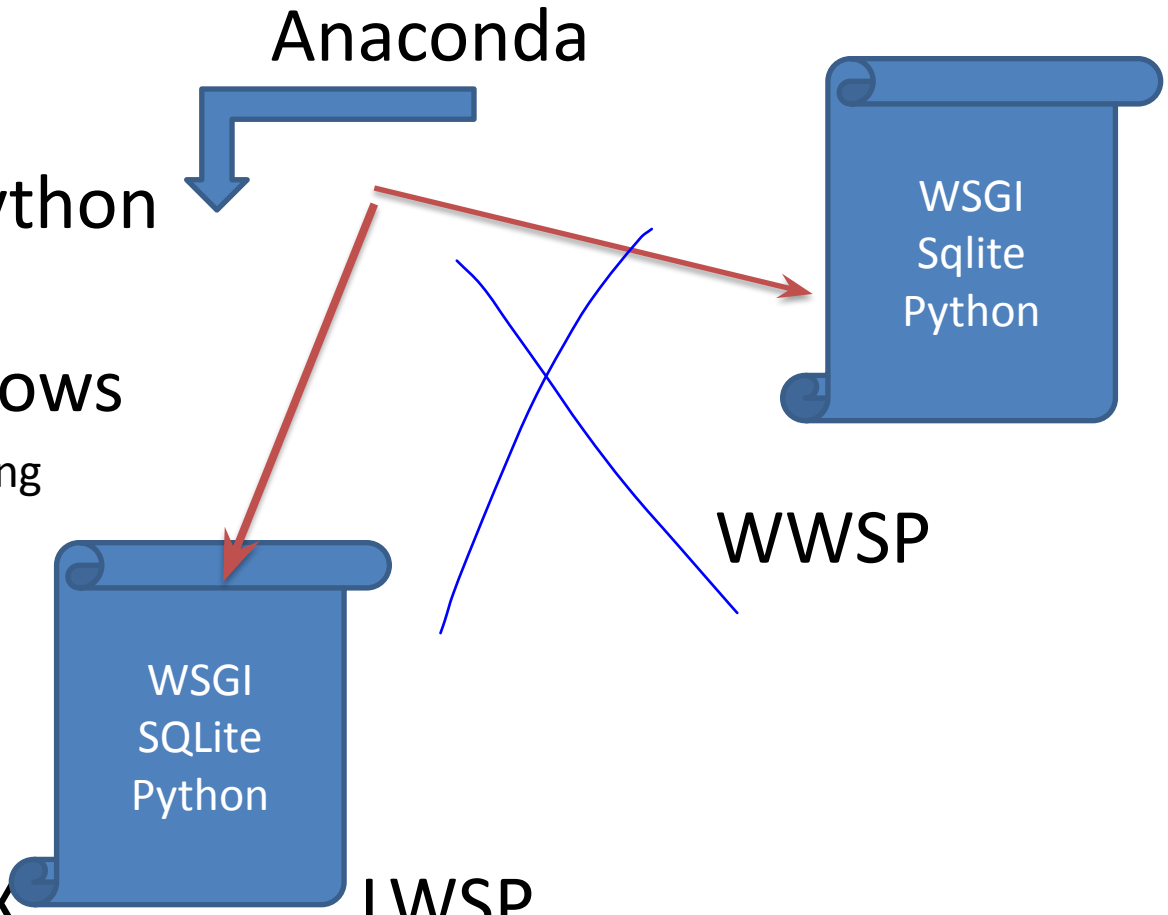
1) LWMP (Linux, WSGI, MySQL, PYTHON)
and
2) WWMP (Windows, WSGI, MySQL, PYTHON)



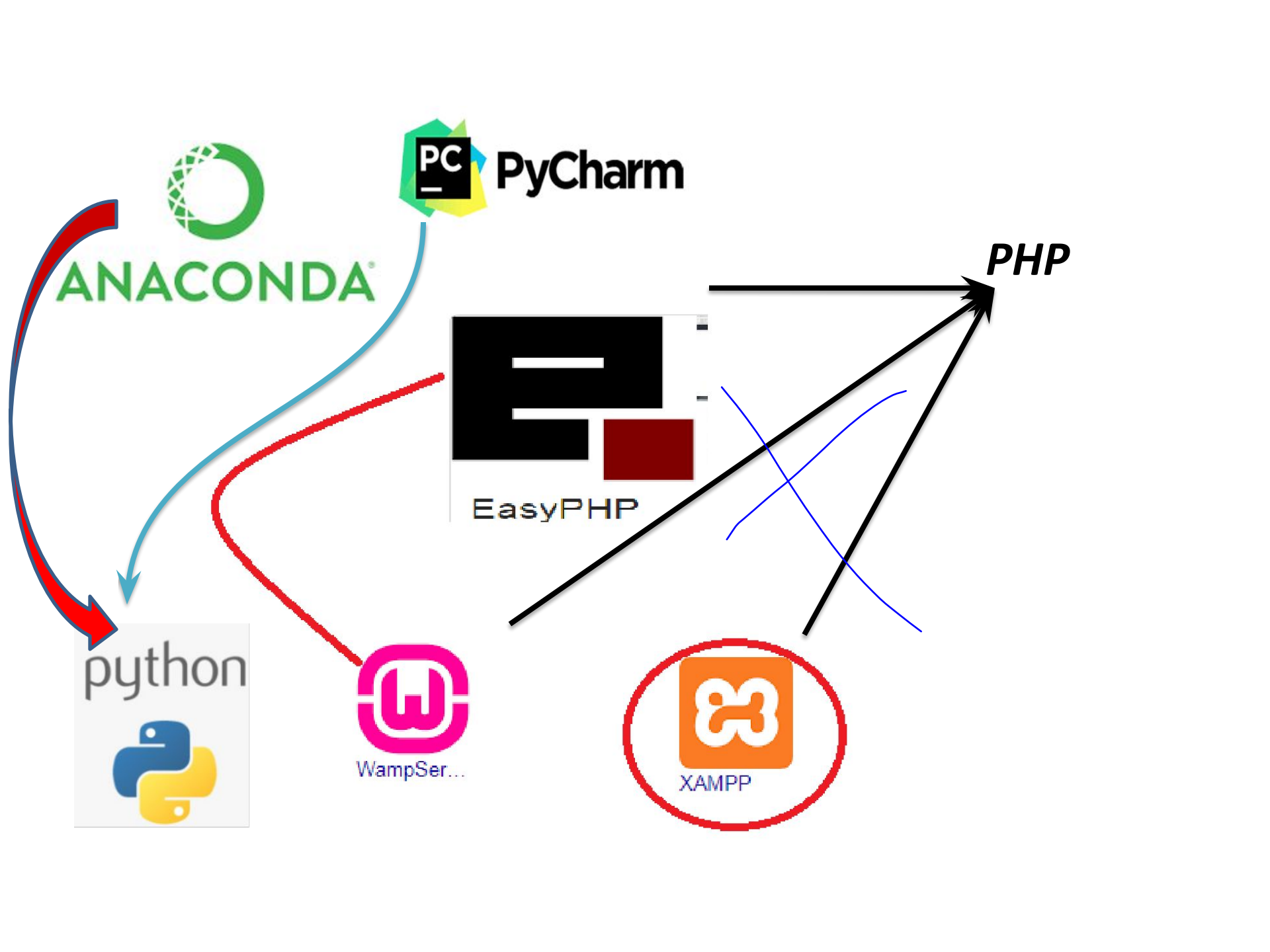
IIS webserver




WAMP
LAMP
MAMP
P hp
M ysql
A pache
w indows
Operating System
L iux
Macintosh
EasyPhp
web
technologies
WAMP5
XAMPP



- Windows
  Operating System
- LINUX
  operating system


PyCharm
ANACONDA
PHP
EasyPHP
python
WampSer...
XAMPP

Web server

Web server is a machine that serves up the web page requests of a client on the internet.

- It is a combination of **hardware and software**.
- Decision as regards the type of a web server is largely dependent on the **volume and type of web activities**.

OPERATING SYSTEMS FOR WEB SERVERS?

Count only three

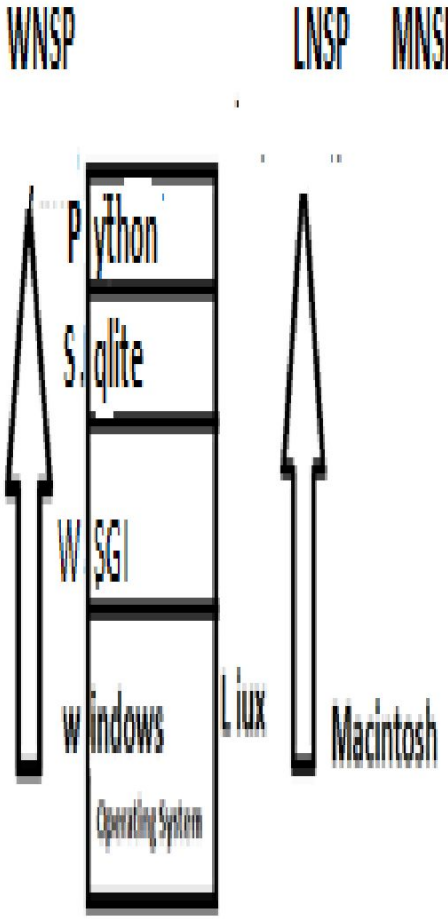
Web Server Software

Common examples of web server software are

- **Apache** HTTP server
- **MS Internet Information Server (IIS)**
- **Sun ONE web server**.
- Web server Gateway interface (WSGI)
- Ngnix

pronounced “engine-x

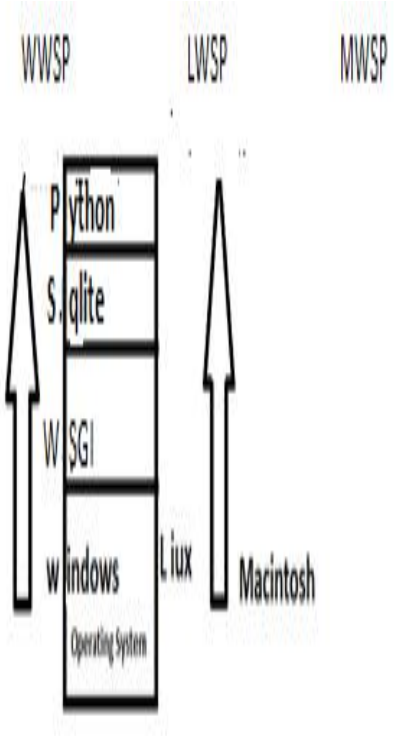
Webserver

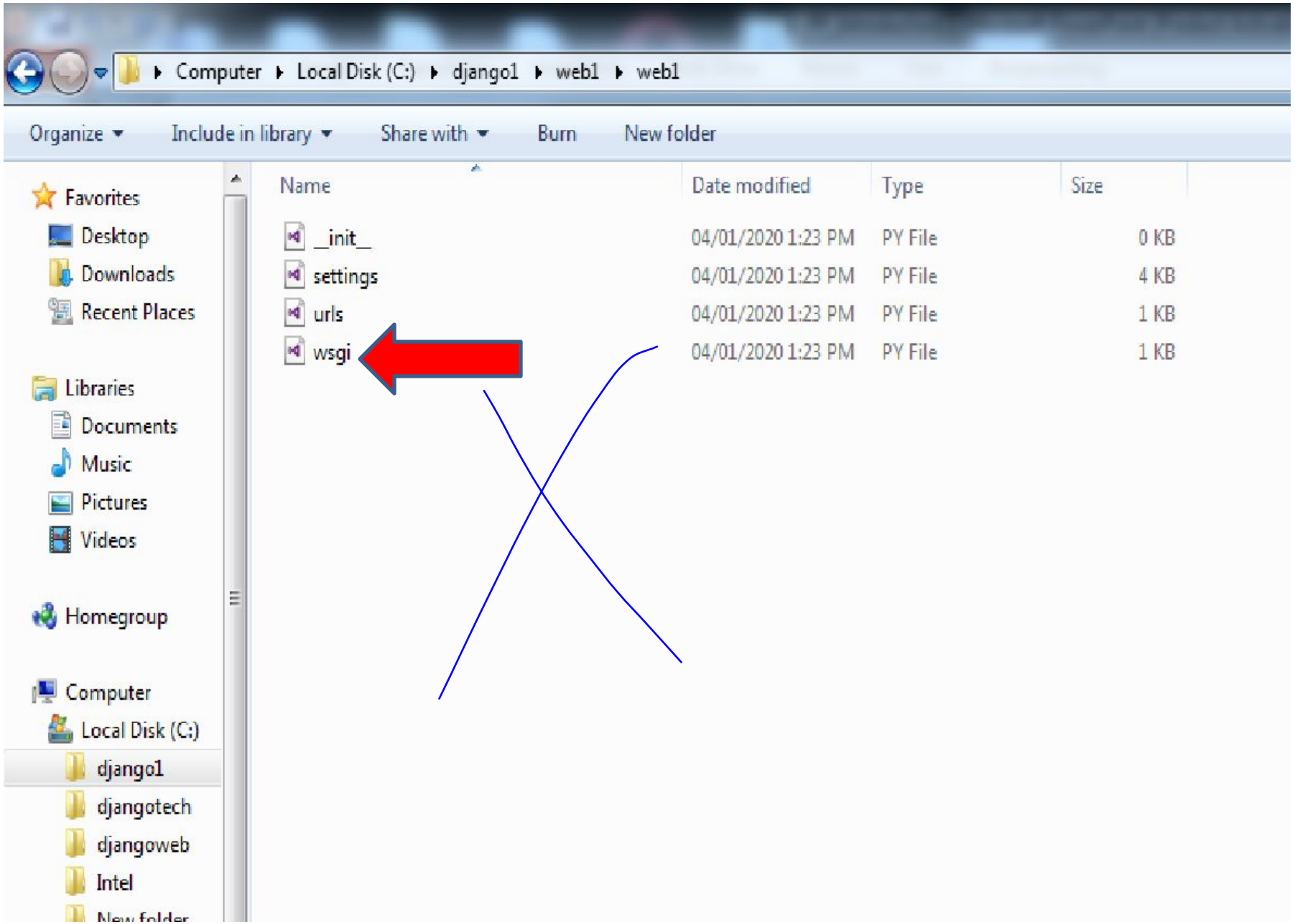


Nginix

engine-x

WSGI



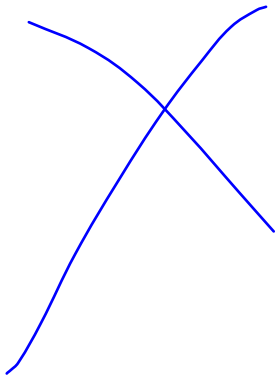

Computer ▸ Local Disk (C:) ▸ django1 ▸ web1 ▸ web1
Organize
Include in library
Share with
Burn
New folder
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Homegroup
Computer
Local Disk (C:)
django1
djangotech
djangoweb
Intel
Name
Date modified
Type
Size
init 04/01/2020 1:23 PM PY File 0 KB
settings 04/01/2020 1:23 PM PY File 4 KB
urls 04/01/2020 1:23 PM PY File 1 KB
wsgi 04/01/2020 1:23 PM PY File 1 KB

requirement

- Install of python
- Install virtual environment
- Install python

  www. Python.org

Anaconda



c:/> user>python

>>>quit()

Back to user

If not activate…. Right click on my computer,,,, property… advance system setting… advance,,, click on environment variable … edit and copy .. C:\users\kamaran\appdata\local programs\python\pythonversion3.8

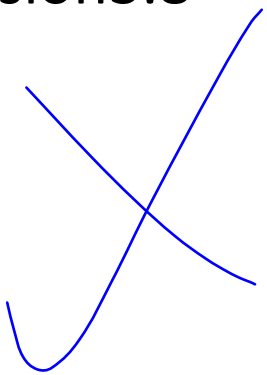
Then Past it in environments

Script

<u>Step-1-</u>

Install virtual envirment

Users>pip install virtualenv



- Step 2

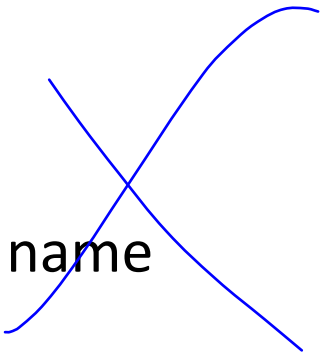
  Users>Pip install virtualenvwrapper

  step3

- Users>Pip install virtualenvwrapper-win
- Step4
- Users>mkvirtualenv project_name
- After that go to find the create folder by your name

user>cd location

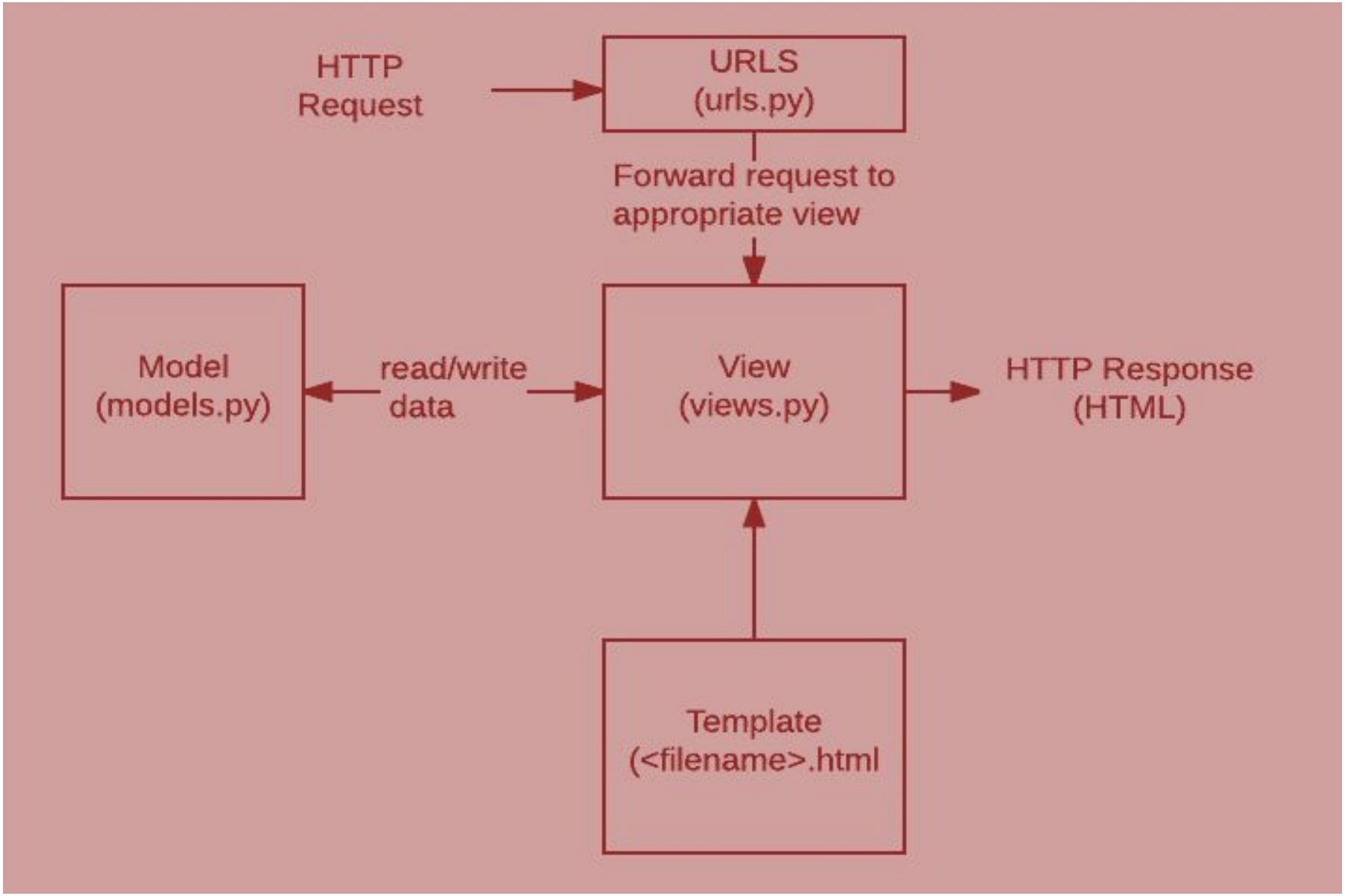
Scripts\activate



Outline

- Introduction
- What is Django?
- Requirement
- Steps to Design a Websites
- Create Django Project
- Starting New Project
- Changing Models
- Making Migrations
- Migrating to Database
- Registering to Admin
- Creating SuperUser and View

Python with Django



Introduction

- Django is modeled around a **Model-View-Controller (MVC)** framework. Django uses slightly different terminology in its implementation of MVC, In Django.

- **The model: Django's Object Relational Mapping(ORM)** provides the interface to the application database.

- **The template:** provides display logic and is the interface between the user and your Django application.

- **The view:** manages the bulk of the applications data processing, application logic and messaging**.**

What is Django

- **Django:** is a free and open source web application framework, written in Pyrhon.

- A web framework is a set of components that helps you to develop websites faster and easier.

- Built by experienced developers, it takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel.

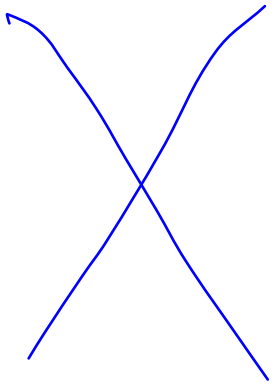
- **Django**>> Easier, Fully loaded, Fast, Secure and Scalable & maintainable.

Requirement

- **Python 3**
- **Command Line**
- **Text-Editor**
- **Virtual Environment**
- **Activating your Virtual Environment**
- **Installing the required package**

Steps to Design a Websites

- Install Python
- Install Virtual environment
  1. pip install virtualenv
  2. Pip install virtualenvwrapper
  3. Pip install virtualenvwrapper-win
  4. mkvirtualenv project_name

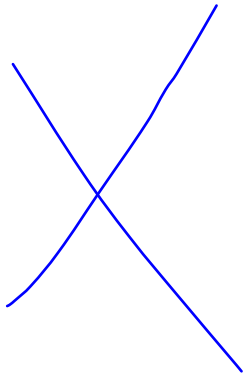


- Click on location to that virtual environment (cd location of folder)
- After that activate scripts (Scripts\activate)

Differences between them

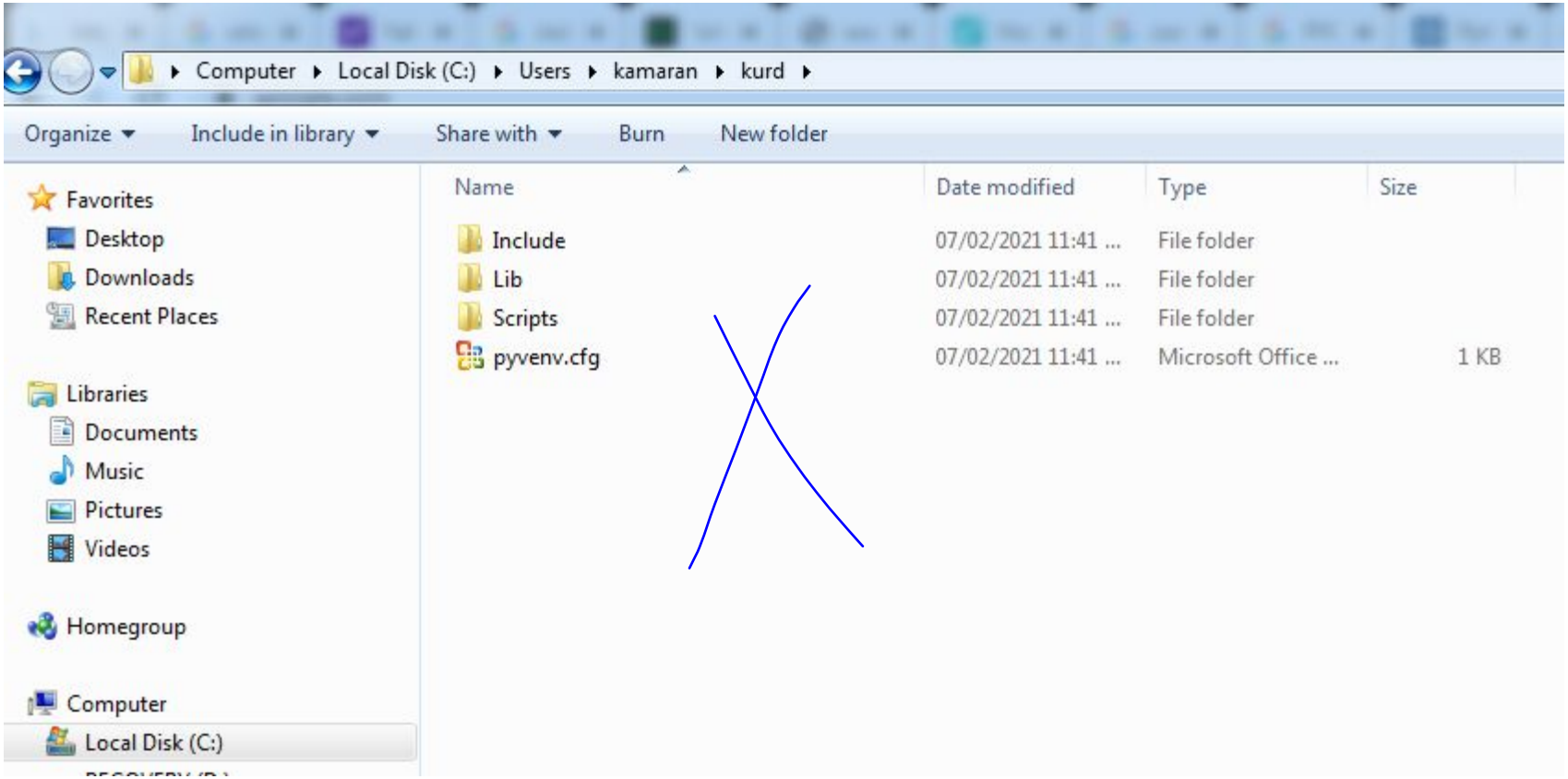
1) this package used with python 2

pip install virtualenv



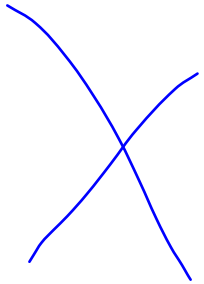
2) used with python 3

python -m venv name_env


Computer ▸ Local Disk (C:) ▸ Users ▸ kamaran ▸ kurd ▸
Organize
Include in library
Share with
Burn
New folder
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Homegroup
Computer
Local Disk (C:)
Name
Date modified
Type
Size
Include
07/02/2021 11:41 ...
File folder
Lib
07/02/2021 11:41 ...
File folder
Scripts
07/02/2021 11:41 ...
File folder
pyvenv.cfg
07/02/2021 11:41 ...
Microsoft Office ...
1 KB

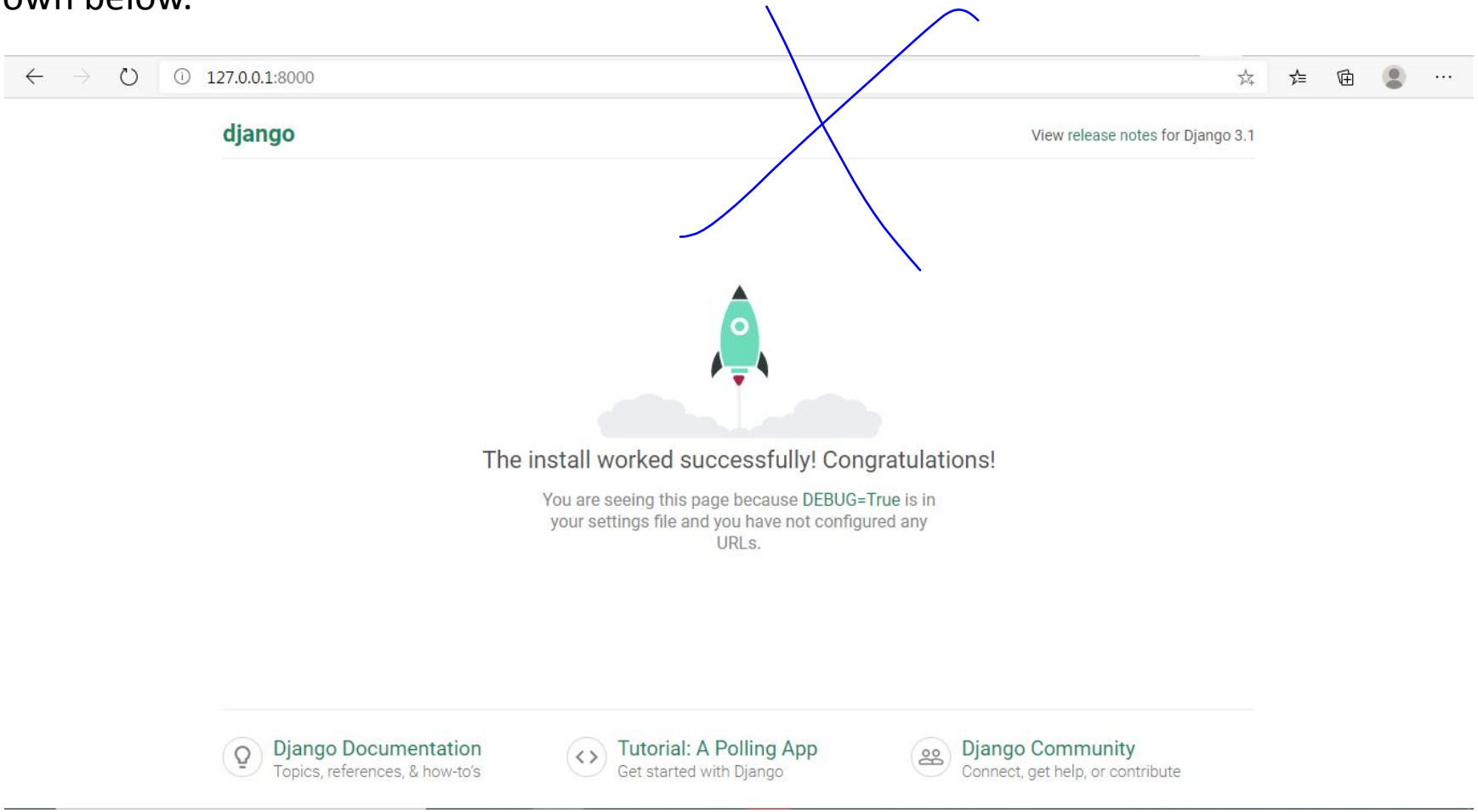
Steps to Design a Websites cont.

- Install Django (python –m pip install django)
- Create projects (django-admin startproject project_name)
- Cd project_name
- Run the website (python manage.py runserver)
- Open an browser write URL of that website.



Run Website interface

•The project can be viewed in your favorite browser (Google Chrome, Mozilla Firefox, etc.).You can come into your browser and type 'localhost:8000' or '127.0.0.1:8000' in the URL, as shown below.



Starting the new Project

- For creating a new project in the Django, it's always a two-step process:

1. The first step is to create an app by using 'python manage.py startapp app_name' command. In Django, there are many apps to the single project where each app serves as single and specific functionality to the particular project.

2. The second step is to make our project let know about our newly created app by making changes to the ‘project_name/settings.py' INSTALLED_APP section.

Let's review what each new pages app file does:

admin.py is a configuration file for the built-in Django Admin app

apps.py is a configuration file for the app itself

migrations/ keeps track of any changes to our models.py file so our database and models.py stay in sync

models.py is where we define our database models which Django automatically translates into database tables

tests.py is for our app-specific tests

views.py is where we handle the request/response logic for our web app

Changing Models

- Django uses 'SQLite' as the default database, which is light and only used for small projects, which is fine for this project. It uses **'Object Relational Mapper(ORM)'** which makes it really easy to work with the database.

- The actual database code is not written, whereas the database tables are created through the help of 'class' keyword in **'models.py'.**

Making a Migrations

- 'python manage.py makemigrations' is a first step process which reads the 'models.py' after it's creation.
- It creates a new folder called 'migrations' where there is a file named '0001_initial.py', which are portable across the database.

Migrating to the database

- This is the second step where **'python manage.py migrate'** reads the newly created folder **'migrations'** and creates the database.
- It evolves the database when there is a change in the model.

Registering to the admin

- Let's move to ' **project_name /admin.py**' and do an import of the models called '**Post**' by using '**from .models import Post**'. To register models to the admin, the command is '**admin.site.register(Post)**'.

Creating SuperUser and Viewing in the Administration panel

- You need to create a SuperUser before accessing the 'admin' panel. To do so, use **'python manage.py createsuperuser'**.

World-Class Software Companies That Use Python

- Google.
- Facebook.
- Instagram.
- Spotify.
- Quora.
- Netflix.
- Dropbox.

CONFIGRATION

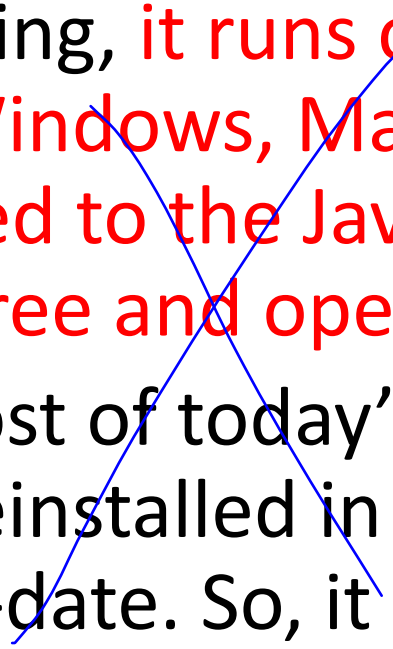
- How to configure the python distribution to our particular installation and needs. We shall look at three different configuration mechanisms.

What is in an IDE?

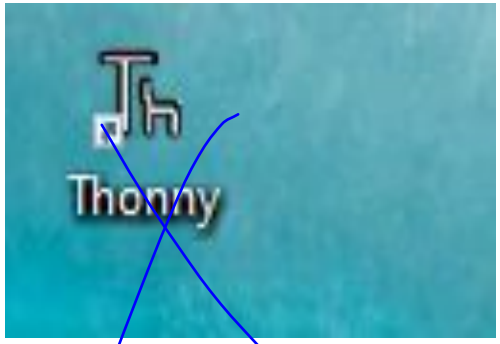
- An **integrated development environment** (**IDE**) is a software application that provides comprehensive facilities to computer programmers for software development. An **IDE** normally consists of at least a source code editor, build automation tools, and a debugger.

Python

- Python is a cross-platform programming language, meaning, it runs on multiple platforms like Windows, MacOS, Linux and has even been ported to the Java and .NET virtual machines. It is free and open source.
- Even though most of today's Linux and Mac have Python preinstalled in it, the version might be out-of-date. So, it is always a good idea to install the most current version.



Differences between



Python

https://www.python.org › downloads

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- Even though most of today's Linux and Mac have Python preinstalled in it, the version might be out-of-date. So, it is always a good idea to install the most current version.

The Easiest Way to Run Python

1) The easiest way to run Python is by using **Thonny IDE**

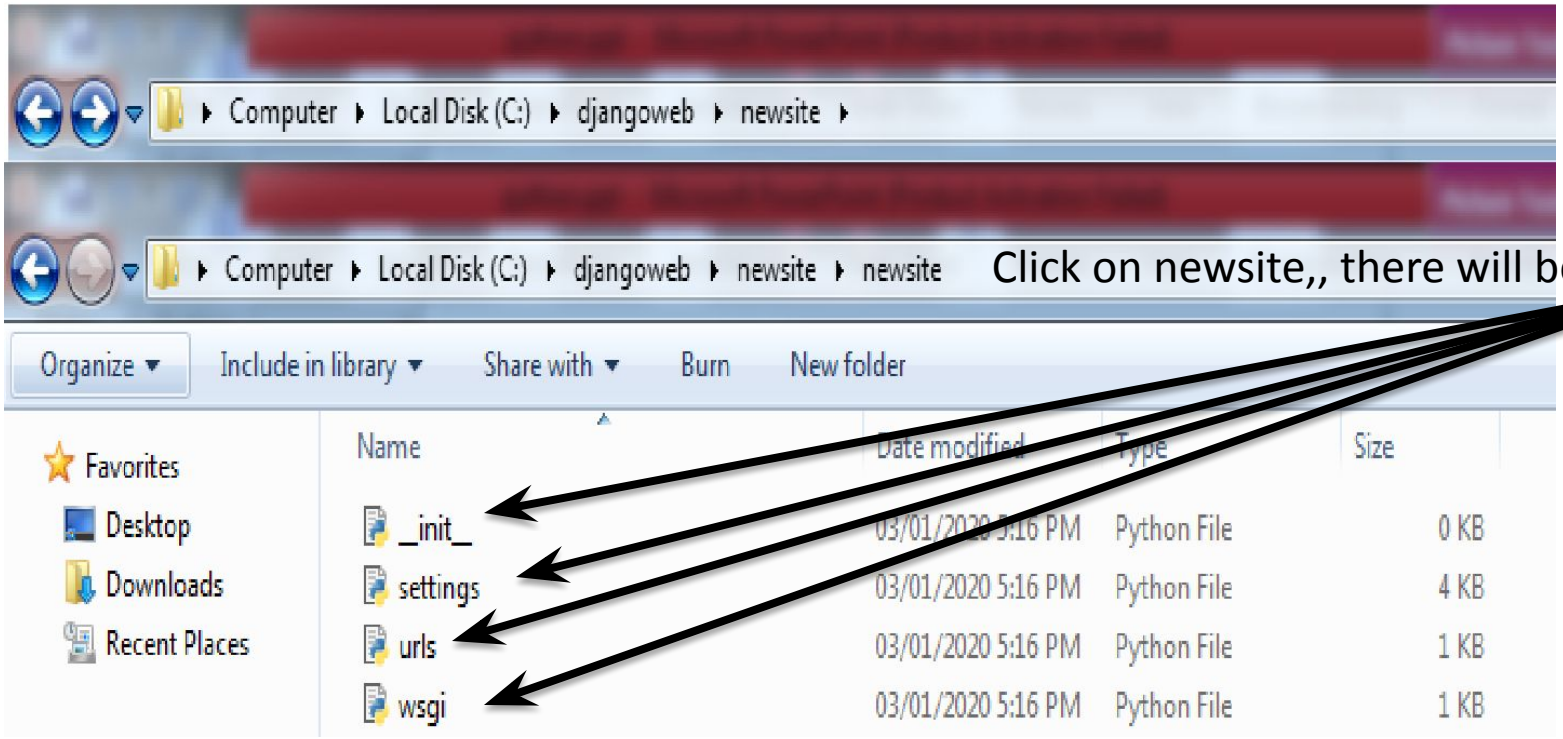
Run Python in Immediate mode

2) Install Python Separately

Run Python in the Integrated Development Environment (IDE)

If you don't want to use Thonny, here's how you can install and run Python on your computer.

Download the latest version of Python.


Computer ▸ Local Disk (C:) ▸ djangoweb ▸ newsite ▸
Computer ▸ Local Disk (C:) ▸ djangoweb ▸ newsite ▸ newsite
Click on newsite,, there will be four files
Organize
Include in library
Share with
Burn
New folder
Favorites
Desktop
Downloads
Recent Places
Name
Date modified
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Size
init
03/01/2020 5:16 PM
Python File
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settings
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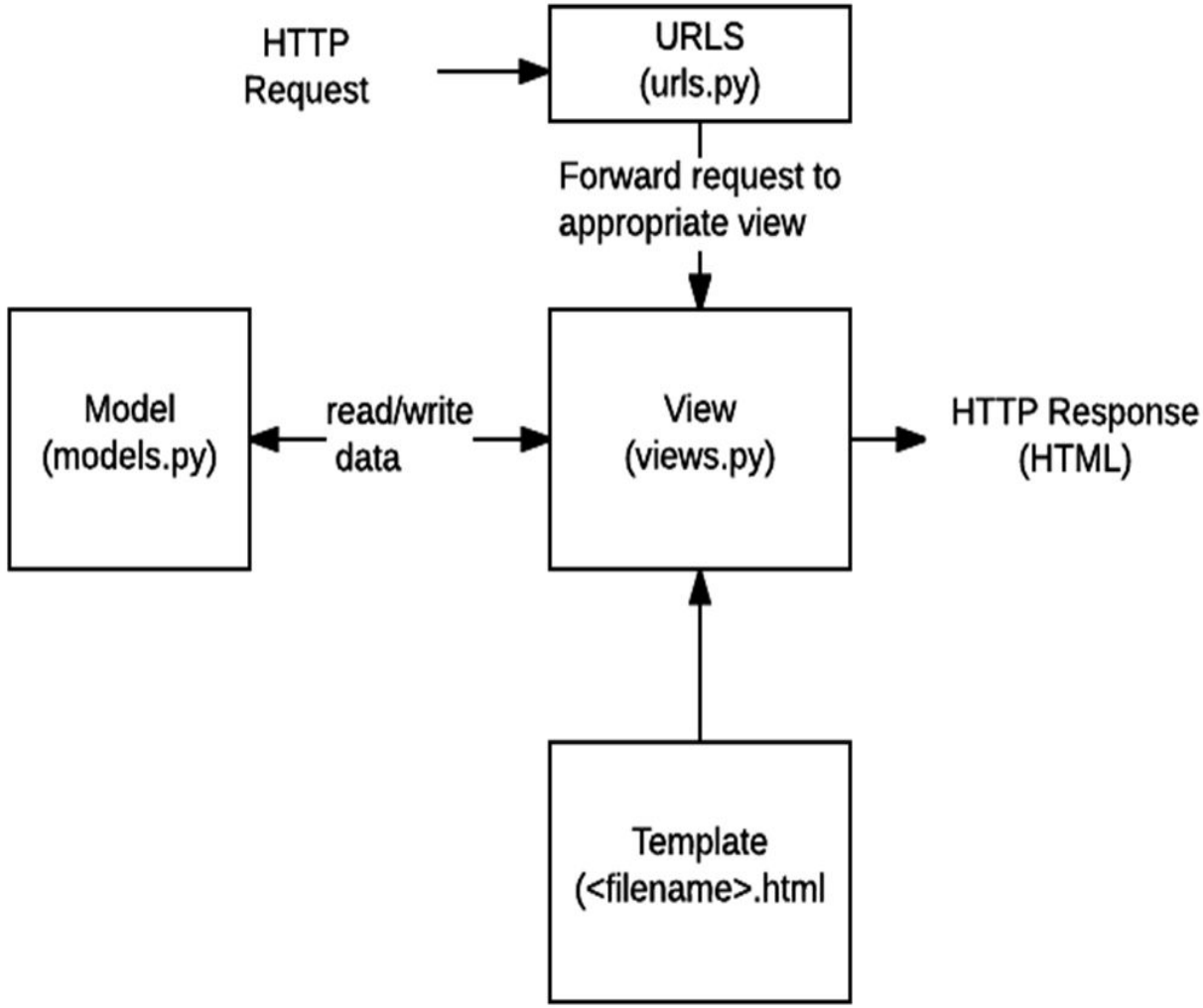
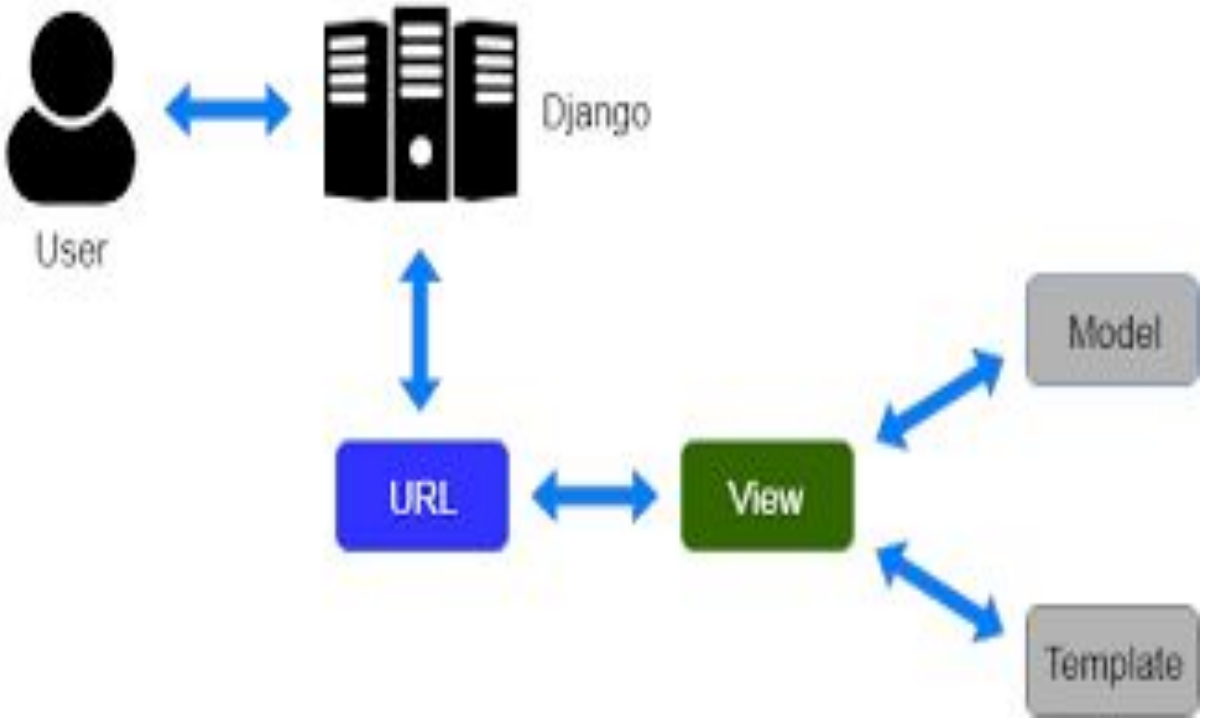

HTTP
Request
URLS
(urls.py)
Forward request to
appropriate view
Model
(models.py)
read/write
data
View
(views.py)
HTTP Response
(HTML)
Template
(<filename>.html

How to django work

- M module
- V view (logic)
- T template (HTML file)



M V T

- How to module a person name, D.O.B, P,O,B personal code, insurance code…
- Library:

M writer name, category

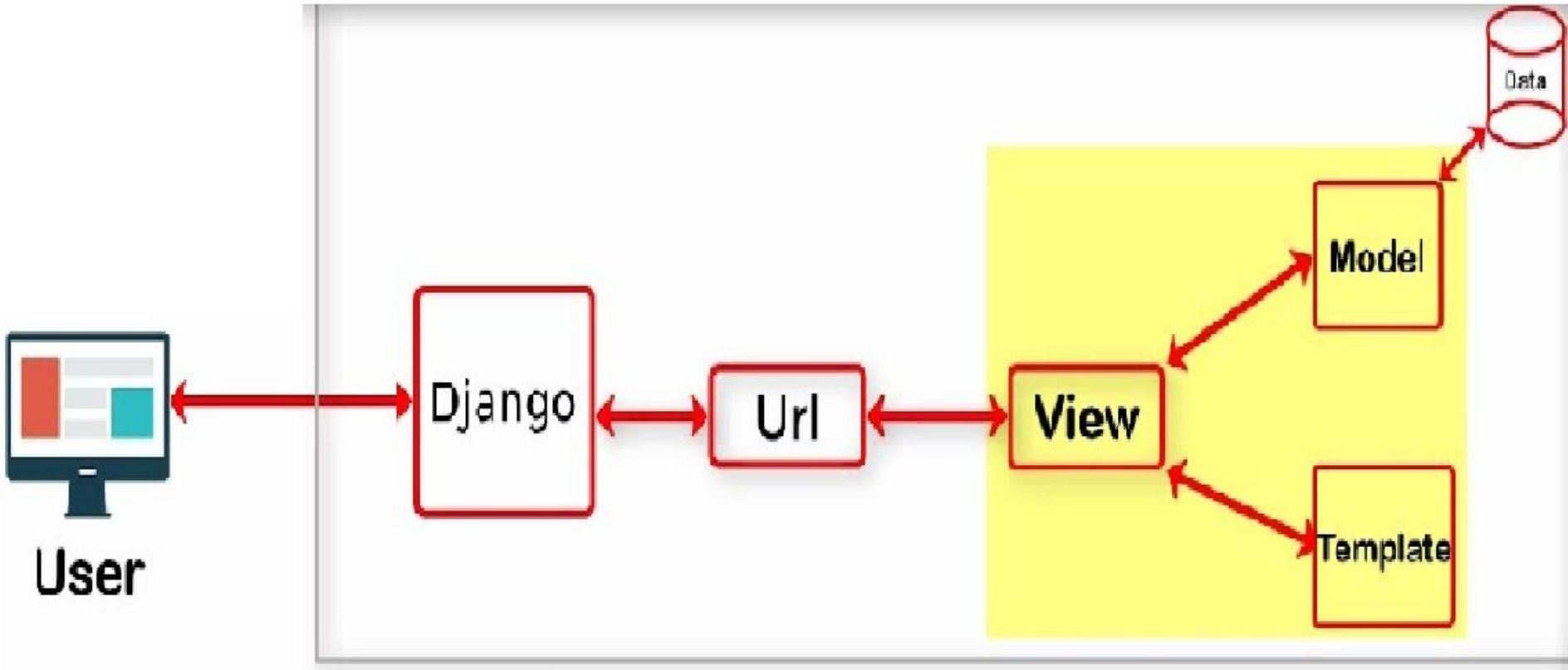
V logic program add book, delete book, search book

T html

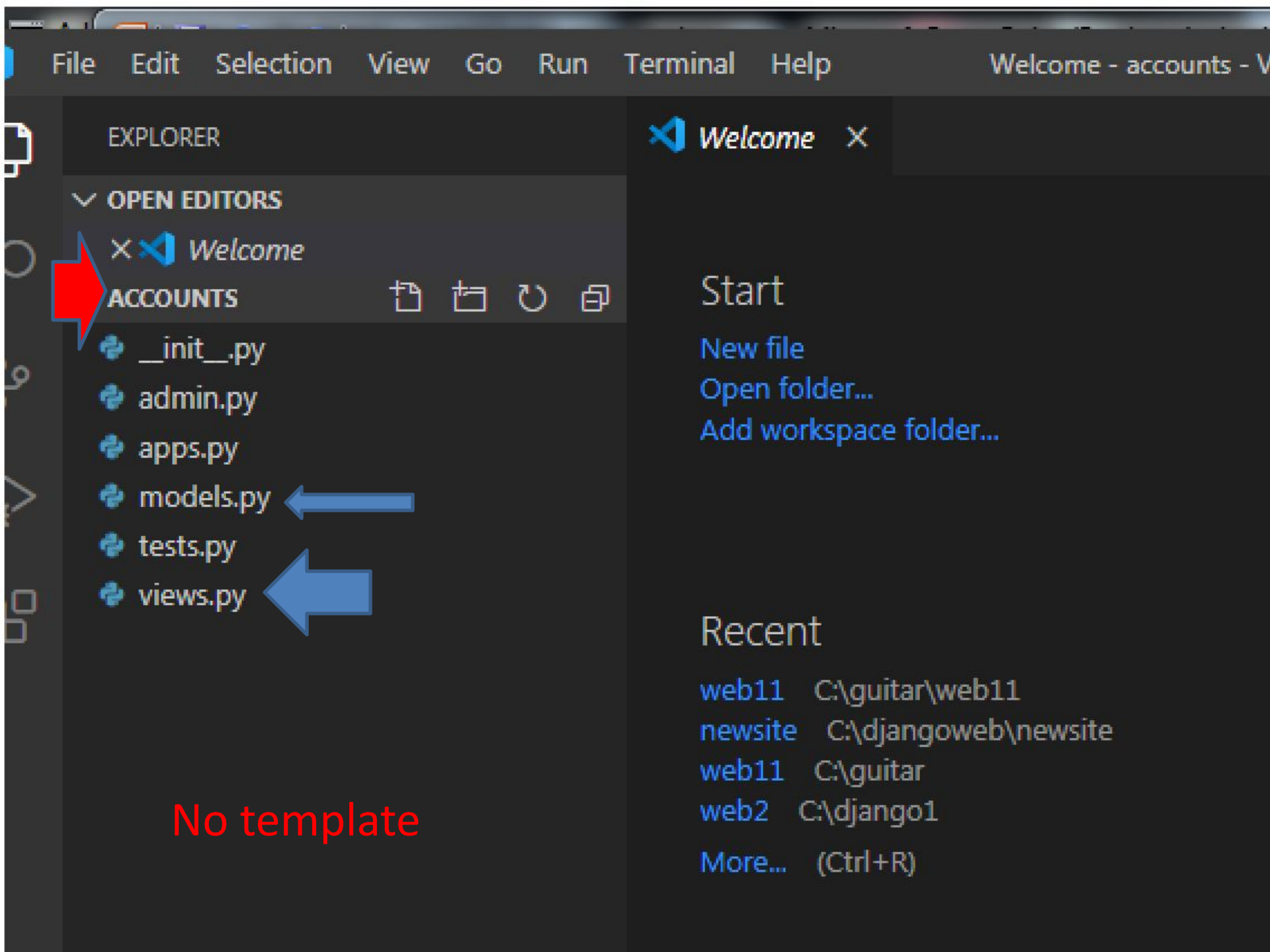
View is logic

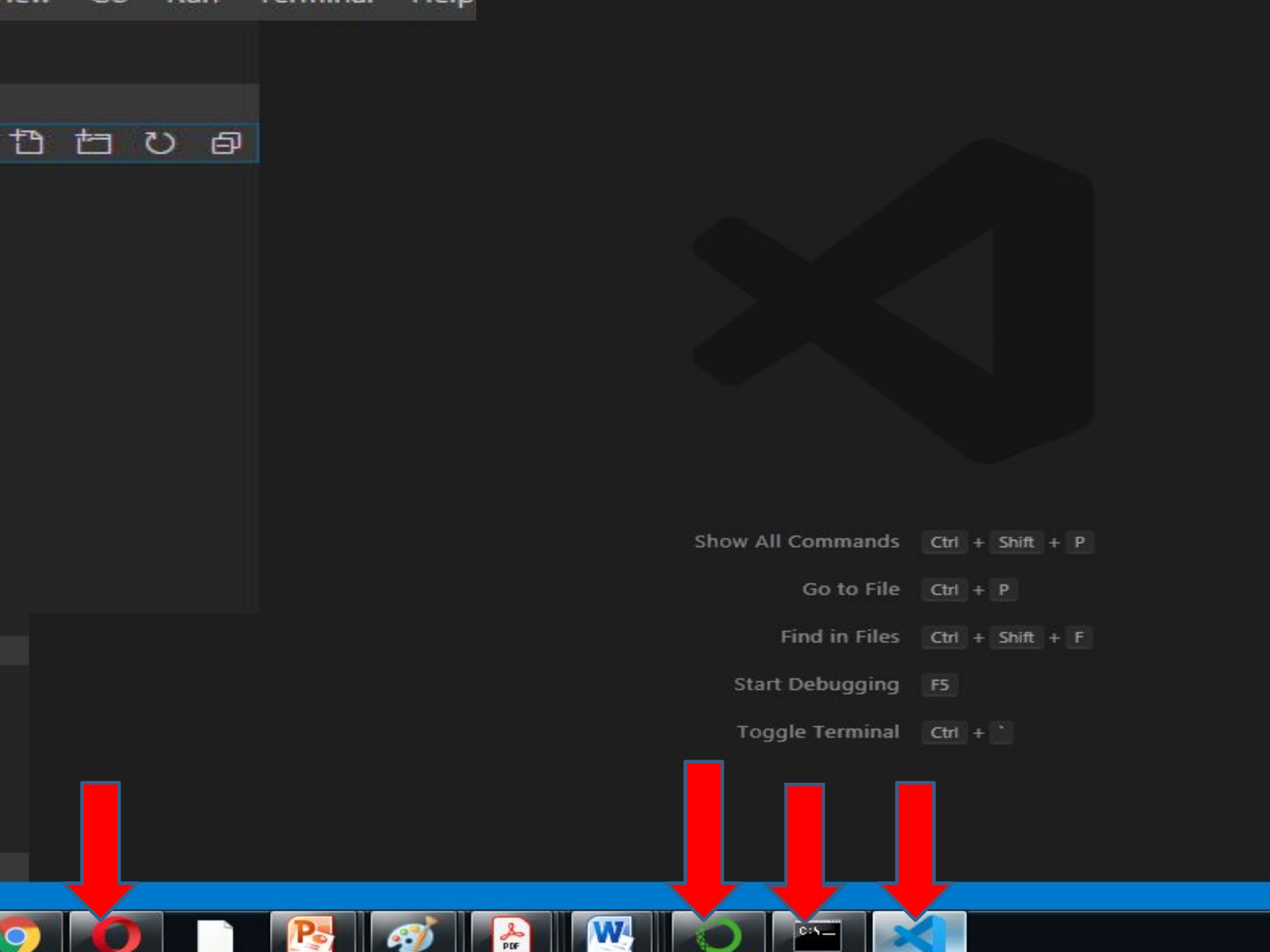
What is MVT in Django?

- Django MVT. The MVT (Model View Template) is a software design pattern. It is a collection of three important components Model View and Template. The Model helps to handle database. It is a data access layer which handles the data.



MVT


File Edit Selection View Go Run Terminal Help
Welcome - accounts - V
EXPLORER
Welcome
OPEN EDITORS
Welcome
ACCOUNTS
__init__.py
admin.py
apps.py
models.py
tests.py
views.py
No template
Start
New file
Open folder...
Add workspace folder...
Recent
web11 C:\guitar\web11
newsite C:\djangoweb\newsite
web11 C:\guitar
web2 C:\django1
More... (Ctrl+R)


Show All Commands Ctrl + Shift + P
Go to File Ctrl + P
Find in Files Ctrl + Shift + F
Start Debugging F5
Toggle Terminal Ctrl + `