### **Task 1 Postgresql - Reflection**

1. **What is the need for Add Ons in Heroku?**

Heroku Add-ons are created, installed, and deployed to your app. When you choose an add-on, the service is created and the URL for the service is attached to your application (or applications) via an environment variable.

Your app source code can access and use this environment variable’s value to interact with the add-on service.

For example, if you chose a Heroku Postgres add-on, the database is installed, your app is updated with a URL to the database, and you can even access the database from the command line.

1. **What exactly happens when you click on provision while configuring the Postgres addon?**

It creates an empty database and that database can be used to store data of the application.

1. **What is the use of Adminer? How does it work?**

**Adminer** (formerly known as phpMinAdmin) is a tool for managing content in My SQL databases.

* Users log in specifying the destination server and providing the user name and password (which is stored during whole session)
* Basic functions: select [database](https://en.wikipedia.org/wiki/Database), select/edit tables, browse/insert/edit table rows
* Searching or sorting via multiple columns
* Editing of other database objects: [views](https://en.wikipedia.org/wiki/View_(database)), [triggers](https://en.wikipedia.org/wiki/Trigger_(database)), [events](https://en.wikipedia.org/wiki/Event_(computing)), [stored procedures](https://en.wikipedia.org/wiki/Stored_procedure), processes, mysql variables, user permissions
* Text area for arbitrary SQL commands and storing these commands in command history
* Export of databases and tables (its structures and/or data) as a dump to output or a downloadable attachment

### **Task 2 Python and Flask - Reflection**

1. **How do I manage to use python 3.6 if I already have python 2.7?**

We can customize installation of any version of Python. We can use both versions of Python by editing the ‘PATH’ environment variable correctly.

While executing the files, we need to specify the version of Python in order to execute the files with that version of Python.

1. **What is the role of pip and how does it work?**

PIP is a package manager for Python packages, or modules if you like. It allows you to install and manage additional packages that are not part of the [Python standard library](https://docs.python.org/3/py-modindex.html).A package contains all the files you need for a module.Modules are Python code libraries you can include in your project.

Usage:

pip <command> [options]

Commands:

install Install packages.

download Download packages.

uninstall Uninstall packages.

freeze Output installed packages in requirements format.

list List installed packages.

show Show information about installed packages.

check Verify installed packages have compatible

dependencies.

config Manage local and global configuration.

search Search PyPI for packages.

wheel Build wheels from your requirements.

hash Compute hashes of package archives.

completion A helper command used for command completion.

help Show help for commands.

General Options:

-h, --help Show help.

--isolated Run pip in an isolated mode, ignoring environment

variables and user configuration.

-v, --verbose Give more output. Option is additive, and can be

used up to 3 times.

-V, --version Show version and exit.

-q, --quiet Give less output. Option is additive, and can be

used up to 3 times (corresponding to WARNING,

ERROR, and CRITICAL logging levels).

--log <path> Path to a verbose appending log.

--proxy <proxy> Specify a proxy in the form

[user:passwd@]proxy.server:port.

--retries <retries> Maximum number of retries each connection should

attempt (default 5 times).

--timeout <sec> Set the socket timeout (default 15 seconds).

--exists-action <action> Default action when a path already exists:

(s)witch, (i)gnore, (w)ipe, (b)ackup, (a)bort).

--trusted-host <hostname> Mark this host as trusted, even though it does

not have valid or any HTTPS.

--cert <path> Path to alternate CA bundle.

--client-cert <path> Path to SSL client certificate, a single file

containing the private key and the certificate in

PEM format.

--cache-dir <dir> Store the cache data in <dir>.

--no-cache-dir Disable the cache.

--disable-pip-version-check

Don't periodically check PyPI to determine

whether a new version of pip is available for

download. Implied with --no-index.

1. **What is the role of requirements.txt and how does it work with pip?**

Requirements.txt file in an application is used to specify the required packages of Python. ‘Pip’ is used to install all those packages by using the above command.

1. **Which packages are installed and why are they required?**

Flask, SqlAlchemy, Jinja2 , Flask\_Session are installed.

Flask is used to run web applications. Flask\_Session is used to provide sessions to each user so that the data can be secured. Jinja2 is used to write code for dynamic web pages. SqlAlchemy is used to store data of the application**.**

1. **Which environment variables set for Flask to work? What is the purpose of each variable?**

FLASK\_APP

FLASK\_APP tells the Flask to check for the code in the specified file.

1. **What happens when the Flask run command is issued on the terminal?**

It is used to run web applications on the server.

1. **On which port is Flask running and can it be changed?**

5000.

We can change the port by using the command below :

flask run -h localhost -p 3000

1. **How is Flask different from the tiny web server?**

Both Flask and tiny web server are used to run web applications.

Flask is used to render dynamic web pages, whereas a tiny web server is unable to render dynamic web pages.

### **Task 3 Goodreads API - Reflection**

1. **What are the various categories of web APIs available on good reads?**

Various categories of web APIs available on good reads are

● Auth

● Book

● Comments

● Friend

● Group etc

1. **Is there a limit on the use of the web API? What are the limits?**

Yes, there is a limit on the use of web API. The limit is one request for one book.