MySQL

MySQL in Flask in 15 or so slides
Principle of Least Privilege

A user (or process) should have the lowest level of privilege required in order to perform his/her assigned task.
Principle of Least Privilege

- not root

- why? because as root we can do anything

CREATE DATABASE IF NOT EXISTS aliendb;

GRANT ALL PRIVILEGES ON aliendb.* to 'alienUsername'@'localhost' identified by 'alienPassword';
Root have Password?

- if not ...

```
SET PASSWORD FOR 'root'@'localhost' = PASSWORD('f3jga908');
```
Back to MySQL & Flask

Follow along in the simpleSample folder under alienAbduction!!
4 Basic Steps

1. connect with MySQLdb.connect
2. assemble query string
3. execute the query with cur.execute
4. fetch the results
1) connect with MySQLdb.connect

```python
# utils.py
import MySQLdb

DATABASE='microBlogDB'
DB_USER = 'blogUser'
DB_PASSWORD = 'blogPassword'
HOST = 'localhost'

def db_connect():
    return MySQLdb.connect(HOST, DB_USER, DB_PASSWORD, DATABASE)
```
1) connect with MySQLdb.connect

```python
db = utils.db_connect()
cur = db.cursor()
```

In computer science, a database cursor is a control structure that enables traversal over the records in a database. Cursors facilitate subsequent processing in conjunction with the traversal, such as retrieval, addition and removal of database records. ...

http://en.wikipedia.org/wiki/Database_cursor
1) connect with MySQLdb.connect

```python
import pymysql

db = pymysql.connect(**kwargs)
cur = db.cursor()
```

In computer science, a database cursor is a control structure that enables traversal over the records in a database. Cursors facilitate subsequent processing in conjunction with the traversal, such as retrieval, addition, or removal of database records. ...

http://en.wikipedia.org/wiki/Database_cursor

It is a structure we will use to interact with the database
2) assemble query string

query = "SELECT population FROM Country WHERE name = 'Haiti'"

query = "SELECT * FROM users WHERE name = '" + request.form['name'] + '""

print query
3) execute the query with `cur.execute(query)`
4) fetch the results

```
rows = cur.fetchall()

return render_template('index.html', posts=rows)

{% for post in posts %}
<p>{{post[1]}}  <b>{{post[0]}}</b></p>
{% endfor %}
```
simpleSample

All this in the demo

| utils.py |
| server.py |
| index.html |
The Task

❖ MySQL-ify alien abductions
❖ partner task