

ASE 420 - Design Document V2

Python CLI Program: Timely

- Github Repository Link: <https://github.com/jmlpamonag/Timely>

Data Structure

- **Data Structure:** *I will be using list of tuples because i want to make immutable objects for the tasks and prevent unnecessary data modifications to these objects. Being able to put these tuples in a list would also help me to be able to sort them based on specific criterions.*

Database Structure - Revised

- I'll be using this structure to save a record in the database. For the revised version, I added a component named time spent which records the time(seconds) the user has spent on a specific task

```
# Record Object

Recrd = {
    startDate: "<date>",
    endDate: "<date>",
    task: "<from_time>",
    tag: "<to_time>",
    timeSpent: "<time_spent>"
}
```

Database Access - SQLite

- Create a new database

```
import sqlite3
con = sqlite3.connect("<new_database_name>.db")
cur = con.cursor()
```

- Create a new table

```
cur.execute("CREATE TABLE <table_name>(<column_one>,<column_two>,...)")
```

- Insert data to table

```
cur.execute("<Insert Statement>")
```

```
# Note: Insert statement implicitly opens a transaction, which needs to be  
# committed before changes are saved on the database  
con.commit()
```

- Query database

```
res = cur.execute("<Query_Statement>")
```

```
# fetchOne() -> returns first result from the query. if non-existent, returns none.res.fetchOne()  
# fetchAll() -> returns all result of query. if non-existent, returns noneres.fetchAll()
```