

UrbanPoint Database System

README / Execution Guide

Team 17 – CMUQ IS Database Project

This document provides instructions for creating, initializing, and interacting with the UrbanPoint PostgreSQL database, as well as running the Python programs that implement different user stories. It serves as a standalone execution guide for testing and demonstrating the system.

1. Database Setup

Before running any queries or Python scripts, the UrbanPoint database must be created and populated using the provided SQL files:

- `create.sql` — creates all tables, keys, and constraints.
- `initialize.sql` — inserts sample and reference data.
- `show_all.sql` — displays the content of all major tables.

All commands assume:

- PostgreSQL username: `isdb`
- Database name: `urbanpoint`

Step 1: Create the Schema

Run:

```
psql -U isdb -d urbanpoint -f create.sql
```

This creates all relations, primary keys, foreign keys, and constraints.

Step 2: Insert Initial Data

Run:

```
psql -U isdb -d urbanpoint -f initialize.sql
```

This loads sample customers, brands, outlets, offers, and payments.

Step 3: View Current Database State (Optional)

Run:

```
psql -U isdb -d urbanpoint -f show_all.sql
```

This script prints all tables to help verify initialization.

2. Running Python Programs

Several Python scripts are provided to demonstrate how user stories are implemented.

- `menu.py` — an interactive menu to explore all functionalities.
- `first-user-story.py`, ... — individual scripts for testing each story.

Make sure you are in the same directory as the Python files.

Option A: Run the Interactive Menu

Use:

```
python3 menu.py
```

This shows a numbered interface where you can select operations such as:

- creating a customer account
- browsing brands
- searching for outlets
- running analytical reports
- generating contact lists

Each option internally calls the relevant SQL function or query.

Option B: Run a Specific User Story Script

To test a user story individually:

```
python3 first-user-story.py
```

Each user story file contains:

- example inputs

- example function calls
- SQL execution from Python

These test calls can be removed once validated, since `menu.py` exposes all functionalities in one place.

3. Verifying Results

After performing any operation, use:

```
psql -U isdb -d urbanpoint -f show_all.sql
```

This allows you to confirm:

- new customers were inserted
- new outlets or offers appear correctly
- redemptions and payments were recorded
- analytical queries updated or displayed the expected results

This script is especially useful when demonstrating system behavior during grading.

4. Quick Execution Summary

```
# Create database schema
psql -U isdb -d urbanpoint -f create.sql

# Insert sample data
psql -U isdb -d urbanpoint -f initialize.sql

# View tables (optional)
psql -U isdb -d urbanpoint -f show_all.sql

# Run the interactive menu
python3 menu.py

# Run a specific user story
python3 first-user-story.py
```

End of README / Execution Guide