CSE 511 – Project Phase 2

Group15

Group Members

Aniruddha Mondal	1219300407	amondal8@asu.edu
Ravi Maddi	1222610472	rmaddi1@asu.edu
Sagar Subbaiah Kuppanda Cariappa	1219783773	skuppand@asu.edu
Vishrut Jha	1221914707	vkjha@asu.edu

The goal of this project is to perform spatial Hot Spot Analysis. We do this by implementing two different hot spot analysis tasks – Hot Zone Analysis & Hot Cell Analysis.

Problem Description:

Hot Zone Analysis: This task checks which rectangle has the greatest number of points within it. A rectangle with a greater number of points inside it will be considered 'hotter.'

Hot Cell Analysis: In this task we use the spatio-temporal big data to identify statistically significant spatial hotspots by using spatial statistics. We calculate the heat of each cell using the Get-Ord G_i^* statistic.

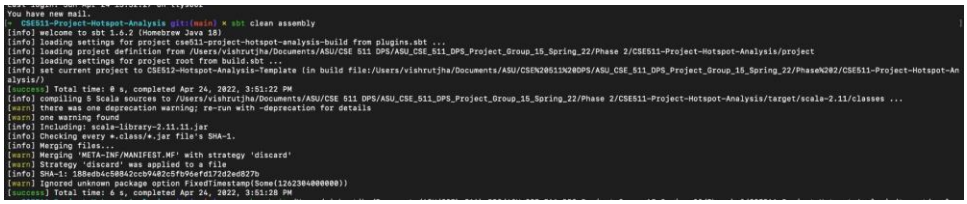
Testing our code:

Below are the steps to run the code and test its functionality:

1. We installed all the prerequisites and verify the installation of spark by running the command "spark-shell". Now we followed the below steps for executing the project:

2. Open the terminal and go to the path where the project has been placed.

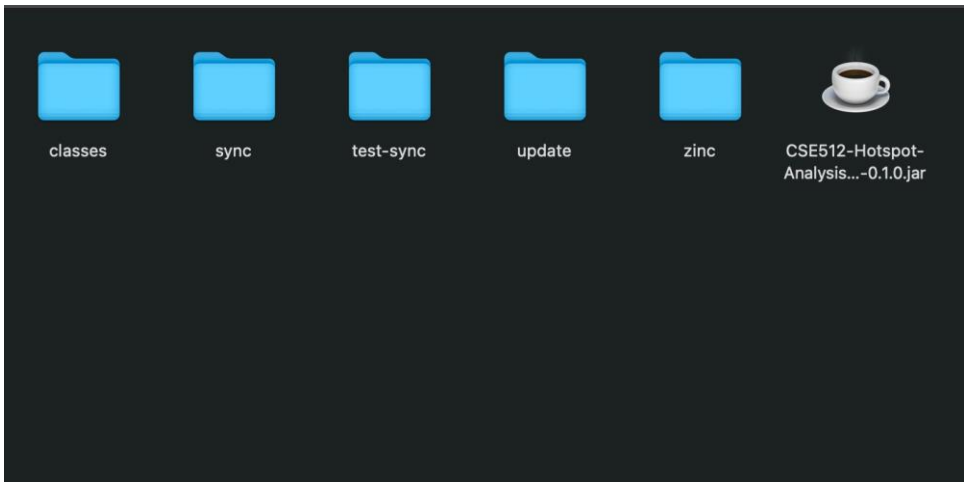
3. Then run the command "sbt clean assembly" as shown in the screenshot:



On successfully running the command we get a folder named 'target'. Inside the target folder the jar file is generated.

4. On running the above command we will have our jar file inside the Scala folder. Below is the screenshot.

Path: Target->Scala->.jar File



5. We now copy the jar file and paste it in the root folder.

6. After this we run the command below to test the implementation:

~/CSE511-Project-Hotspot-Analysis/target/scala-2.11/CSE512-Hotspot-Analysis-Template-assembly-0.1.0.jar test/output hotzoneanalysis src/resources/point_hotzone.csv src/resources/zone-hotzone.csv hotcellanalysis src/resources/yellow_trip_sample_100000.csv

Below are the screenshots of the run: