**Part2:**

# Create a new keyspace

CREATE KEYSPACE project3 WITH replication = {'class':'SimpleStrategy', 'replication\_factor' : 2};

# Open the keyspace

USE project3;

# Create a new table

CREATE TABLE timeline (

ip text,

vara text,

varb text,

date text,

dmod text,

command text,

site text,

browser text,

PRIMARY KEY (ip, command, date, dmod, browser)

) WITH comment='Yo';

# Import data from access\_log

COPY timeline (ip, vara, varb, date, dmod, command, site, browser) FROM '/home/student/input/access\_log' WITH DELIMITER = ' ';

**Part3, P1:**

CREATE CUSTOM INDEX com\_indx ON timeline (command)

USING 'org.apache.cassandra.index.sasi.SASIIndex';

SELECT count(\*) from timeline WHERE command LIKE ‘GET /assets/img/release-schedule-logo.png%’ ALLOW FILTERING;

**Part3, P2:**

SELECT ip, count(ip) FROM timeline WHERE ip = ‘10.207.188.188’ GROUP BY ip;

**Part3, P3:**

# creat user-defined function

CREATE FUNCTION project3.state\_group\_and\_count(state map<text, int>, type text)

CALLED ON NULL INPUT

RETURNS map<text, int>

LANGUAGE java

AS $$

Integer count = (Integer) state.get(type);

if (count == null)

count = 1;

else

count++;

state.put(type, count);

return state;

$$;

CREATE FUNCTION project3.ccmapmax(input map<text, int>)

RETURNS NULL ON NULL INPUT

RETURNS map<text, int>

LANGUAGE java

AS $$

Integer max = Integer.MIN\_VALUE;

String data="";

for (String k : input.keySet()) {

Integer tmp = input.get(k);

if (tmp > max) { max = tmp; data = k; }

}

Map<String,Integer> mm = new HashMap<String,Integer>();

mm.put(data,max);

return mm;

$$;

CREATE OR REPLACE AGGREGATE group\_and\_count(text)

SFUNC state\_group\_and\_count

STYPE map<text, int>

FINALFUNC ccmapmax

INITCOND {};

SELECT group\_and\_count(command) FROM timeline ALLOW FILTERING;

**Part3, P4:**

SELECT group\_and\_count(ip) FROM timeline ALLOW FILTERING;