Project Phase 1

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ABSTRACT

A project submission for Big Data CSCI 620, Phase 1 A detailed analysis of the dataset of Daily Historical Stock Prices (1970 - 2018). Which evidently has about 20M records, for which we are going to give a relational model and a program to load the dataset onto tables

CCS CONCEPTS

• **Introduction to Big Data**; • **Daily Historical Stock Prices (1970 - 2018)**; • **Relational Model**; • **With SQL Schema creation**;

KEYWORDS

Relational Model, SQL Schema, Daily Historical Stock Prices (1970 - 2018)

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1 INTRODUCTION

Of the data set of Daily Historical Stock Prices (1970 - 2018), we are to create a relational schema and provide the Relational Model and also a python code to load the data set into the table.
Basic Columns involved in our dataset are:
ticker - The symbol for the stock
open - The open price
close - The close price
adj_close - The adjusted close price
low - The low price
high - The high price
volume - The volume
date - The date

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2 DESCRIPTION OF THE CONTENTS OF THE FILES

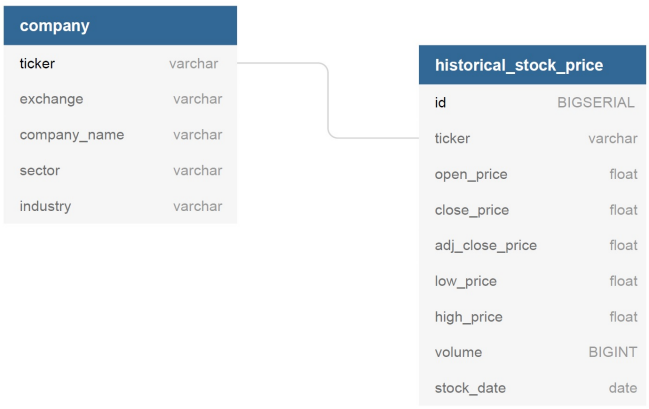
historical_stock_prices.csv

This file has information of every stock being sold, its high and low, its closing and opening price also the closing adjustments, recorded to date.

historical_stocks.csv

This file has information about the stocks of each company, and their dealers(Exchange), along with the sector to which the stock belong and also the industry it represents.

3 RELATIONAL MODEL



Design Decision

As by the current dataset, it is clear that ticker be stock identity, which will the primary key to historical_stock_price table, and a foreign key to company table.

4 SQL SCRIPTS

```
CREATE TABLE "company" (
"ticker" varchar PRIMARY KEY,
"exchange" varchar,
"company_name" varchar,
"sector" varchar,
"industry" varchar
);


CREATE TABLE "historical_stock_price" (
"id" BIGSERIAL PRIMARY KEY,
"ticker" varchar REFERENCES "company" ("ticker"),
"open_price" float,
"close_price" float,
"adj_close_price" float,
"low_price" float,
"high_price" float,
"volume" BIGINT,
"stock_date" date
);
```

5 PROGRAM TO LOAD THE DATA FROM THE TEXT FILES INTO THE DATABASE

Program file enclosed