**Thamaine Gangiah**

**PHASE 3: DATABASE CONSTRUCTION**

CREATE TABLE constructor(

constructorName VARCHAR(100),

constructorNationality VARCHAR(100),

points INT(3),

constructorID VARCHAR(2)PRIMARY KEY NOT NULL

);

CREATE TABLE driver(

driverName VARCHAR(25)PRIMARY KEY NOT NULL,

driverSurname VARCHAR(25) ,

driverNumber VARCHAR(2),

driverNationality VARCHAR(25),

team VARCHAR(50),

points INT(3),

constructor VARCHAR(2)NOT NULL,

FOREIGN KEY (constructor)REFERENCES constructor(constructorID)

);

CREATE TABLE practice(

P1LapTime TIME,

P2LapTime TIME,

P3LapTime TIME,

lapsCompleted VARCHAR(2),

practiceID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,

driver VARCHAR(25) NOT NULL,

FOREIGN KEY (driver) REFERENCES driver(driverName)

);

CREATE TABLE qualifying(

Q1LapTime TIME,

Q2LapTime TIME,

Q3LapTime TIME,

lapsCompleted VARCHAR(2),

qualifyingID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,

driver VARCHAR(25) NOT NULL,

FOREIGN KEY (driver) REFERENCES driver(driverName)

);

CREATE TABLE circuit(

circuitName VARCHAR(50),

country VARCHAR(50),

circuitLength DOUBLE(4,3),

circuitID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,

race INTEGER NOT NULL,

FOREIGN KEY (race)REFERENCES race(raceID)

);

CREATE TABLE race(

raceName VARCHAR(50),

circuitName VARCHAR(50),

raceDate DATE,

raceTime TIME,

numOfLaps INT(2),

circuitLength DOUBLE(4,3),

raceID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,

qualifying INTEGER NOT NULL,

driver VARCHAR(25) NOT NULL,

FOREIGN KEY (driver) REFERENCES driver(driverName),

FOREIGN KEY (qualifying) REFERENCES qualifying(qualifyingID)

);

CREATE TABLE racetime(

raceTimeID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,

timeTaken TIME,

driver VARCHAR(25) NOT NULL,

FOREIGN KEY (driver) REFERENCES driver(driverName)

);

CREATE TABLE tyre(

compoundAvailable VARCHAR(2),

grip VARCHAR(1),

durability VARCHAR(1),

tyreType VARCHAR(10),

tyreID INTEGER NOT NULL AUTO\_INCREMENT ,

PRIMARY KEY(tyreID),

CONSTRAINT tyreType\_check CHECK (tyreType IN ('soft','medium','hard'))

);

CREATE TABLE hard(

hTyreID INTEGER NOT NULL,

C1 TEXT ,

C2 TEXT,

C3 TEXT,

PRIMARY KEY(hTyreID),

FOREIGN KEY (hTyreID) REFERENCES tyre(tyreID)

);

CREATE TABLE medium(

mTyreID INTEGER NOT NULL,

C2 TEXT,

C3 TEXT,

C4 TEXT,

PRIMARY KEY(mTyreID),

FOREIGN KEY (mTyreID) REFERENCES tyre(tyreID)

);

CREATE TABLE soft(

sTyreID INTEGER NOT NULL,

C3 TEXT,

C4 TEXT,

C5 TEXT,

PRIMARY KEY(sTyreID),

FOREIGN KEY (sTyreID) REFERENCES tyre(tyreID)

);

CREATE TABLE pitstop(

lapPitted VARCHAR(2),

duration TIME,

pitstopTime TIME,

pitstopID INTEGER NOT NULL AUTO\_INCREMENT PRIMARY KEY,

tyre INTEGER NOT NULL,

driver VARCHAR(25) NOT NULL,

FOREIGN KEY (tyre) REFERENCES tyre(tyreID),

FOREIGN KEY (driver) REFERENCES driver(driverName)

);