TABLE/CONSTRAINTS CREATION QUERIES

Sr .no	Action	SQL Query
1	Creating a database	`CREATE DATABASE Dart`

2	Person Table	```CREATE TABLE `person` (
		    `p_id` varchar(4) NOT NULL,
		    `f_name` VARCHAR(120) NOT NULL,
		    `m_name` VARCHAR(120),
		    `l_name` VARCHAR(120) NOT NULL,
		    `p_address` VARCHAR(300) NOT NULL,
		    `gender` VARCHAR(10) NOT NULL ,
		    `date_of_birth` DATE NOT NULL,
		    PRIMARY KEY (`p_id`)
		);```

3	Add age, p_id, gender constraint	```DELIMITER //
		CREATE TRIGGER agecheck
		BEFORE INSERT ON person
		FOR EACH ROW
		    IF TIMESTAMPDIFF(YEAR, NEW.date_of_birth,
		CURDATE()) < 16 THEN
		    SIGNAL SQLSTATE '45000'
		        SET MESSAGE_TEXT = 'Cannot add or
		update row: AGE must be greater than 16';
		    ELSEIF (NEW.p_id REGEXP '^[P][0-9]{3}$') = 0
		THEN
		            SIGNAL SQLSTATE '45000'
		            SET MESSAGE_TEXT = 'p_id
		format is wrong';
		    ELSEIF NEW.gender not in ('Male', 'Female',
		'Other') THEN
		    SIGNAL SQLSTATE '45000'
		        SET MESSAGE_TEXT = 'Gender only can
		be male, female or other';
		    END IF;//```

4	Travel card	```CREATE TABLE `travelcard` (
		    `card_id` INT NOT NULL AUTO_INCREMENT,
		    `date_of_issue` DATE NOT NULL,
		    `date_of_expiry` DATE NOT NULL,
		    PRIMARY KEY (`card_id`)
		    );```

5	Terminal table	```CREATE TABLE `terminal` (
		    `terminal_id` INT NOT NULL AUTO_INCREMENT ,
		    `terminal_loc` VARCHAR(300) NOT NULL ,
		    PRIMARY KEY (`terminal_id`)
		    );```

| 6 | Timetable table | ```
CREATE TABLE `timetable` (
    `tt_id` varchar(4),
    `day` VARCHAR(10) NOT NULL , `start_time`
TIME NOT NULL ,
    `end_time` TIME NOT NULL ,
    `interval` INT NOT NULL ,
    PRIMARY KEY (`tt_id`)
);
``` |
|---|---|---|
| 7 | tt_id constraint | ```
DELIMITER //
CREATE TRIGGER tt_id_check
BEFORE INSERT ON timetable
FOR EACH ROW

    IF (NEW.tt_id REGEXP '^(DT)?[0-9]{2}$') = 0
THEN
                SIGNAL SQLSTATE '45000'
                    SET MESSAGE_TEXT = 'tt_id
format is wrong';
    ELSEIF NEW.day not in ('M', 'T', 'W', 'Th',
'F', 'Sat', 'Sun') THEN
                SIGNAL SQLSTATE '45000'
                    SET MESSAGE_TEXT = 'day value
is wrong';
    END IF;//
``` |
| 8 | Route table | ```
CREATE TABLE `route` (
    `route_id` INT NOT NULL AUTO_INCREMENT ,
    `route_name` VARCHAR(120) NOT NULL ,
    PRIMARY KEY (`route_id`)
);
``` |
| 9 | Payment table | ```
CREATE TABLE `payment` (
    `payment_id` INT NOT NULL AUTO_INCREMENT ,
    `payment_method` VARCHAR(120) NOT NULL ,
    `payment_amount` FLOAT NOT NULL ,
    PRIMARY KEY (`payment_id`)
);
``` |
| 10 | payment method constraint | ```
DELIMITER //
CREATE TRIGGER payment_method_check
BEFORE INSERT ON payment
FOR EACH ROW
    IF NEW.payment_method not in ('cash',
'card') THEN
    SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'payment method
value is wrong';
    END IF;//
``` |

| 11 | Ticket | ```
CREATE TABLE `ticket` (
    `ticket_id` INT NOT NULL AUTO_INCREMENT ,
    `bus_id` INT NOT NULL ,
    `date` DATE NOT NULL ,
    `start_time` TIME NOT NULL ,
    PRIMARY KEY (`ticket_id`));
``` |
|---|---|---|
| 12 | Employee | ```
CREATE TABLE Employee(
    e_id varchar(4) NOT NULL ,
    start_date DATE Not NULL ,
    type VARCHAR(20) NOT NULL,
    PRIMARY KEY(e_id),
    FOREIGN KEY(e_id) REFERENCES person(p_id)
    );
``` |
| 13 | Employee type constraint | ```
DELIMITER //
CREATE TRIGGER employee_type_check
BEFORE INSERT ON employee
FOR EACH ROW
    IF NEW.type not in ('Ticket Collector', 'Bus
Driver', 'Staff') THEN
        SIGNAL SQLSTATE '45000'
            SET MESSAGE_TEXT = 'employee type
value is wrong';
    END IF;//
``` |
| 14 | Bus Table | ```
CREATE TABLE Bus(
    bus_no INT NOT NULL,
    lic_no VARCHAR(20) NOT NULL,
    no_of_seats INT NOT NULL,
    tt_id VARCHAR(4) NOT NULL,
    route_id INT NOT NULL,
    e_id  varchar(4) NOT NULL,
    PRIMARY KEY(bus_no),
    FOREIGN KEY(tt_id) REFERENCES
timetable(tt_id),
    FOREIGN KEY(route_id) REFERENCES
route(route_id),
    FOREIGN KEY(e_id) REFERENCES employee(e_id)
    );
``` |
| 15 | Astar Passenger table | ```
CREATE TABLE Astar_passenger(
    p_id varchar(4) NOT NULL,
    card_id INT,
    PRIMARY KEY(p_id),
    FOREIGN KEY(p_id) REFERENCES person(p_id),
    FOREIGN KEY(card_id) REFERENCES
travelcard(card_id)
    );
``` |

| 16 | Pass Table | ```
CREATE TABLE pass(
    pass_id INT NOT NULL,
    month varchar(20) NOT NULL,
    pass_expiry DATE NOT NULL,
    p_id varchar(4) NOT NULL,
    PRIMARY KEY(pass_id,month),
    FOREIGN KEY(p_id) REFERENCES
astar_passenger(p_id)
    );
``` |
|---|---|---|
| 17 | Person phone table | ```
CREATE TABLE person_phone(
    p_id varchar(4) Not NULL,
    phone INT NOT NULL,
    PRIMARY KEY(p_id,phone),
    FOREIGN KEY(p_id) REFERENCES person(p_id)
    );
``` |
| 18 | mobile number constraint | ```
DELIMITER //
CREATE TRIGGER phone_check
BEFORE INSERT ON person_phone
FOR EACH ROW
    IF (NEW.phone < 1000000000) THEN
            SIGNAL SQLSTATE '45000'
                SET MESSAGE_TEXT = 'PHONE
NUMBER is wrong';
    END IF;//
``` |
| 19 | AClass Passenger | ```
CREATE TABLE AClass_passenger(
    p_id varchar(4) NOT NULL,
    pass_id INT,
    PRIMARY KEY(p_id),
    FOREIGN KEY(p_id) REFERENCES person(p_id),
    FOREIGN KEY(pass_id) REFERENCES pass(pass_id)
    );
``` |
| 20 | Children table | ```
CREATE TABLE Children(
    p_id varchar(4) NOT NULL,
    name varchar(50) NOT NULL,
    PRIMARY KEY(p_id, name),
    FOREIGN KEY(p_id) REFERENCES
aclass_passenger(p_id)
    );
``` |
| 21 | No of children constraint | ```
DELIMITER //
CREATE TRIGGER children_no_check
BEFORE INSERT ON children
FOR EACH ROW
    IF (select COUNT(*) from children WHERE p_id
= NEW.p_id )= 5 THEN
            SIGNAL SQLSTATE '45000'
                SET MESSAGE_TEXT = 'An aclass
passenger cannot have more than 5 children';
    END IF;//
``` |

| 22 | Promotion table | ```
CREATE TABLE Promotion(
    pass_id INT NOT Null,
    pr_id INT NOT NULL,
    pr_description VARCHAR(60),
    PRIMARY KEY(pass_id, pr_id),
    FOREIGN KEY(pass_id) REFERENCES pass(pass_id)
    );
``` |
|---|---|---|
| 23 | Status | ```
CREATE TABLE Status (
    bus_no INT NOT NULL,
    start_time TIME NOT NULL,
    date DATE NOT NULL,
    status VARCHAR(10) NOT NULL,
    PRIMARY KEY(bus_no, start_time, date),
    FOREIGN KEY(bus_no) REFERENCES bus(bus_no)
    );
``` |
| 24 | Drives table | ```
CREATE TABLE Drives (
    e_id varchar(4) NOT NULL,
    bus_no INT NOT NULL,
    hour TIME NOT NULL,
    date DATE NOT NULL,
    PRIMARY KEY(bus_no, e_id, date),
    FOREIGN KEY(bus_no) REFERENCES bus(bus_no),
    FOREIGN KEY(e_id) REFERENCES employee(e_id)
    );
``` |
| 25 | Parking table | ```
CREATE TABLE Parking (
    terminal_id INT NOT NULL,
    bus_no INT NOT NULL,
    time TIME NOT NULL,
    date DATE NOT NULL,
    PRIMARY KEY(bus_no, terminal_id,date),
    FOREIGN KEY(bus_no) REFERENCES bus(bus_no),
    FOREIGN KEY(terminal_id) REFERENCES
terminal(terminal_id)
    );
``` |
| 26 | Guest table | ```
CREATE TABLE `guest` (
    `guest_SSN` varchar(15) NOT NULL ,
    `guest_name` VARCHAR(30) NOT NULL ,
    `guest_address` VARCHAR(120) NOT NULL ,
    `guest_contact` INT(10) NOT NULL ,
    PRIMARY KEY (`guest_SSN`)
);
``` |
| 27 | SSN format Constraint | ```
DELIMITER //
CREATE TRIGGER ssn_check
BEFORE INSERT ON guest
FOR EACH ROW
    IF (NEW.guest_SSN REGEXP '^[0-9]{3}-[0-9]{2}-
[0-9]{4}$') = 0 THEN
                SIGNAL SQLSTATE '45000'
                    SET MESSAGE_TEXT = 'guest_ssn
format is wrong';
``` |

| | | ```
END IF;//
``` |
| 28 | Guest log | ```
CREATE TABLE Guest_log(
    passenger_id varchar(4) NOT NULL,
    month varchar(20) NOT NULL,
    month_trip_no  INT(4) NOT NULL,
    guest_id varchar(20) NOT NULL,
    guest_SSN varchar(15) NOT NULL,
    PRIMARY KEY(passenger_id, month,
month_trip_no),
    FOREIGN  KEY(passenger_id) REFERENCES
astar_passenger(p_id),
    FOREIGN  KEY(guest_SSN) REFERENCES
guest(guest_SSN)
    );
``` |
| 29 | No of guests per passenger per month constraint | ```
DELIMITER //
CREATE TRIGGER guest_log_check
BEFORE INSERT ON guest_log
FOR EACH ROW
    IF (select COUNT(*) from guest_log WHERE
passenger_id = NEW.passenger_id AND month =
NEW.month)= 4       THEN
                SIGNAL SQLSTATE '45000'
                    SET MESSAGE_TEXT = 'A
passenger cannot have more than 4 guests in a
month';
    END IF;//
``` |
| 30 | Bus Stop | ```
CREATE TABLE Bus_stop(
    route_id INT NOT NULL,
    stop_name varchar(30) NOT NULL,
    arrival_time TIME NOT NULL,
    PRIMARY KEY(route_id, stop_name ),
    FOREIGN KEY(route_id) REFERENCES
route(route_id)
    );
``` |
| 31 | Sell Table | ```
CREATE TABLE sell(
    payment_id INT NOT NULL,
    ticket_id INT NOT NULL,
    e_id varchar(4) NOT NULL,
    p_id varchar(4) NOT NULL,
    PRIMARY KEY(payment_id,ticket_id,e_id,p_id ),
    FOREIGN KEY(ticket_id) REFERENCES
ticket(ticket_id),
    FOREIGN KEY(payment_id) REFERENCES
payment(payment_id),
    FOREIGN KEY(e_id) REFERENCES employee(e_id),
    FOREIGN KEY(p_id) REFERENCES person(p_id)
    );
``` |