

```

drop table if exists Trip;
drop table if exists Payments;
drop table if exists Subscription;
drop table if exists E_Bike;
drop table if exists Classic_Bike;
drop table if exists Bike;
drop table if exists Docks;
drop table if exists Weather;
drop table if exists Discounts;
drop table if exists Rider;
drop table if exists Fare_Plan;
drop table if exists Station;

-----
-- Table Creation

create table Bike (
    bike_id int primary key,
    bike_model enum('Classic 1','Classic 2','E-Bike'),
    status enum('AVAILABLE','OUT OF USE','IN USE'),
    purchase_date date,
    bike_in_service_year year,
    maintenance_flag boolean,
    bike_issue_note varchar(500),
    trips_last_30d smallint,
    dock_id int
);

SELECT * FROM Bike;

create table Trip (
    trip_id int primary key,
    started_at_date_time datetime,
    ended_at_date_time datetime,
    trip_distance_km decimal(6,2),
    avg_speed_kmh decimal(5,2),
    elevation_gain_m decimal(6,1),
    ride_purpose varchar(50),
    safety_incident_flag boolean,
    safety_incident_note varchar(500),
    rider_id int,
    bike_id int,
    payment_id int,
    weather_id int,
    date_id int
);

SELECT * FROM Trip;

create table Rider (
    rider_id int primary key,
    rider_name varchar(100),
    email varchar(254),
    phone_number bigint,
    gender enum('M','F','Other','Prefer not to say'),
    registration_date date,
    tenure_months smallint,
    trips_last_30d smallint,
    dob date,
    rider_type enum('member','casual')
);

SELECT * FROM Rider;

create table Subscription (
    subscription_id int primary key,
    status enum('active','paused','canceled'),
    fare_plan_free_minutes smallint,
    overage_rate_per_minute decimal(2,2),
    rider_id int,
    plan_id int
);

SELECT * FROM Subscription;

create table Fare_Plan (
    plan_id int primary key,
    plan_name varchar(50),
    plan_type varchar(30),
    price decimal(8,2)
);

```

```
SELECT * FROM Fare_Plan;
```

```
create table Payments (
    payment_id int primary key,
    cc_number varchar(20),
    payment_exp_date date,
    payment_method varchar(20),
    rider_id int
);
```

```
SELECT * FROM Payments;
```

```
create table Discounts (
    date_id int primary key,
    holiday boolean,
    weekend boolean
);
```

```
SELECT * FROM Discounts;
```

```
create table Docks (
    dock_id int primary key,
    dock_status enum('available','occupied','out of service'),
    station_id int
);
```

```
SELECT * FROM Docks;
```

```
create table Station (
    station_id int primary key,
    station_name varchar(100),
    station_lng decimal(9,6),
    station_lat decimal(9,6),
    capacity smallint,
    neighborhood varchar(80),
    borough varchar(80)
);
```

```
SELECT * FROM Station;
```

```
create table Weather (
    weather_id int primary key,
    weather_date date,
    temp_c decimal(2,1),
    feels_like_c decimal(2,1),
    conditions varchar(50),
    wind_kph decimal(3,1),
    precip_mm decimal(3,1)
);
```

```
SELECT * FROM Weather;
```

```
create table E_Bike (
    bike_id int primary key,
    battery_capacity smallint,
    battery_health_pct decimal(5,2),
    motor_power smallint,
    max_assist_speed_kmh decimal(4,1)
);
```

```
SELECT * FROM E_Bike;
```

```
create table Classic_Bike (
    bike_id int primary key,
    gear_count tinyint,
    frame_material varchar(30),
    brake_type varchar(30),
    suspension_type varchar(30)
);
```

```
SELECT * FROM Classic_Bike;
```

```
-----
```

```
-- FK Constraints
```

```
alter table Docks
add constraint foreign key (station_id) references Station(station_id);
```

```
alter table Bike
```

```
add constraint foreign key (dock_id) references Docks(dock_id);

alter table Payments
add constraint foreign key (rider_id) references Rider(rider_id);

alter table Subscription
add constraint foreign key (rider_id) references Rider(rider_id);

alter table Subscription
add constraint foreign key (plan_id) references Fare_Plan(plan_id);

alter table E_Bike
add constraint foreign key (bike_id) references Bike(bike_id);

alter table Classic_Bike
add constraint foreign key (bike_id) references Bike(bike_id);

alter table Trip
add constraint foreign key (rider_id) references Rider(rider_id);

alter table Trip
add constraint foreign key (bike_id) references Bike(bike_id);

alter table Trip
add constraint foreign key (payment_id) references Payments(payment_id);

alter table Trip
add constraint foreign key (weather_id) references Weather(weather_id);

alter table Trip
add constraint foreign key (date_id) references Discounts(date_id);

-----
-- Unique Constraints

alter table Bike
add constraint unique_bike_id unique(bike_id);

alter table Classic_Bike
add constraint unique_bike_id unique(bike_id);

alter table Discounts
add constraint unique_date_id unique(date_id);

alter table Docks
add constraint unique_dock_id unique(dock_id);

alter table E_Bike
add constraint unique_bike_id unique(bike_id);

alter table Fare_Plan
add constraint unique_date_id unique(plan_id);

alter table Payments
add constraint unique_payments_id unique(payment_id);

alter table Rider
add constraint unique_rider_id unique(rider_id);

alter table Station
add constraint unique_station_id unique(station_id);

alter table Subscription
add constraint unique_subscription_id unique(subscription_id);

alter table Trip
add constraint unique_trip_id unique(trip_id);

alter table Weather
add constraint unique_weather_id unique(weather_id);

-----
-- Check Constraint

alter table Bike
add constraint bike_trips_130d_check_constraint check(trips_last_30d < 1000);

alter table Classic_Bike
add constraint classic_bike_check_constraint check(gear_count < 25);

alter table E_Bike
add constraint e_bike_check_constraint check(battery_health_pct <= 100);

alter table Fare_Plan
add constraint price_check_constraint check(price < 1000);

alter table Rider
```

```
add constraint rider_check_constraint check(trips_last_30d < 1000);

alter table Station
add constraint station_capacity_check_constraint check(capacity < 100);

alter table Subscription
add constraint subscription_check_constraint check(fare_plan_free_minutes < 100);

alter table Trip
add constraint trip_check_constraint check(avg_speed_kmh < 30);

alter table Weather
add constraint temp_c_check_constraint check(temp_c > 40.1);

-- GRANT ALL ON sah24002_bike_db.Fare_Plan TO jpe03001@'%';
```