**Phase III. c. Write SQL statements to create databases, tables, and all other structures. Primary key and foreign keys must be defined as appropriate. Also specify data type and constraints for each attribute and in addition to specify the referential integrity.**

|  |  |  |
| --- | --- | --- |
| **CREATE SCHEMA dart**; | | |
| **Table Creation** | | |
| **No.** | **Table** | **SQL** |
|  | | |
| **1** | **person** | **CREATE TABLE** `dart`.`**person**` (  `person\_id` VARCHAR(4) NOT NULL,  `f\_name` VARCHAR(45) NOT NULL,  `m\_name` VARCHAR(45) NOT NULL,  `l\_name` VARCHAR(45) NOT NULL,  `gender` VARCHAR(1) NOT NULL,  `dob` DATE NOT NULL,  `street` VARCHAR(45) NOT NULL,  `apt\_no` VARCHAR(5) NOT NULL,  `zip\_code` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`person\_id`)); |
|  | | |
| **2** | **person\_**  **phone** | **CREATE TABLE** `dart`.`**person\_phone**` (  `phn\_person\_id` VARCHAR(4) NOT NULL,  `phone\_no` VARCHAR(10) NOT NULL,  **PRIMARY KEY** (`phn\_person\_id`, `phone\_no`),  **FOREIGN KEY** (`phn\_person\_id`) **REFERENCES** dart`.`person` (`person\_id`)); |
|  | | |
| **3** | **zip\_code** | **CREATE TABLE** `dart`.`**zip\_code**` (  `zip\_code` VARCHAR(5) NOT NULL,  `city` VARCHAR(45) NOT NULL,  **PRIMARY KEY** (`zip\_code`)); |
|  | | |
| **4** | **a\_star\_**  **passenger** | **CREATE TABLE** `dart`.`a\_star\_passenger` (  `a\_star\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** `a\_star\_id`)); |
|  | | |
| **5** | **employee** | **CREATE TABLE** `dart`.`**employee**` (  `employee\_id` VARCHAR(5) NOT NULL,  `emp\_person\_id` VARCHAR(5) NOT NULL,  `emp\_a\_star\_id` VARCHAR(5) NULL,  `start\_date` DATE NOT NULL,  **PRIMARY** **KEY** (`employee\_id`, `emp\_person\_id`),  **FOREIGN KEY** (`emp\_person\_id`) **REFERENCES** `dart`.`person` (`person\_id`),  **FOREIGN KEY** (`emp\_a\_star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (‘a\_star\_id) ); |
|  | | |
| **6** | **a\_class\_**  **passenger** | **CREATE TABLE** `dart`.`**a\_class\_passenger**` (  `passenger\_id` VARCHAR(5) NOT NULL,  `ac\_person\_id` VARCHAR(5) NOT NULL,  `ac\_a\_star\_id` VARCHAR(45) NULL,  **PRIMARY KEY** (`passenger\_id`, `ac\_person\_id`),  **FOREIGN KEY** (`ac\_person\_id`) **REFERENCES** `dart`.`person` (`person\_id`),  **FOREIGN KEY** (`ac\_a\_star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (`a\_star\_id`)  ); |
|  | | |
| **7** | **staff** | **CREATE TABLE** `dart`.`**staff**`(  `staff\_id` VARCHAR(5) NOT NULL,  `s\_employee\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`staff\_id`, `s\_employee\_id`),  **FOREIGN KEY** (`s\_employee\_id`) **REFERENCES** `dart`.`employee` (`employee\_id`)); |
|  | | |
| **8** | **ticket\_**  **checker** | **CREATE TABLE** `dart`.`**ticket\_checker**` (  `checker\_id` VARCHAR(5) NOT NULL,  `tc\_bus\_no` VARCHAR(5) NOT NULL,  `tc\_employee\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`checker\_id`, `tc\_bus\_no`, `tc\_employee\_id`),  **FOREIGN KEY** (`tc\_employee\_id`) **REFERENCES** `dart`.`employee` (`employee\_id`),  **FOREIGN KEY** (`tc\_bus\_no`) **REFERENCES** `dart`.`bus` (`license\_plate\_no`)); |
|  | | |
| **9** | **bus\_driver** | **CREATE TABLE** `dart`.`**bus\_driver**` (  `driver\_id` VARCHAR(5) NOT NULL,  `d\_employee\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`driver\_id`, `d\_employee\_id`),  **FOREIGN KEY** (`d\_employee\_id`) **REFERENCES** `dart`.`employee` (`employee\_id`)); |
|  | | |
| **10** | **route** | **CREATE TABLE** `dart`.`**route**` (  `route\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`route\_id`)); |
|  | | |
| **11** | **bus** | **CREATE TABLE** `dart`.`**bus**` (  `license\_plate\_no` VARCHAR(7) NOT NULL,  `bus\_no` VARCHAR(5) NOT NULL,  `bus\_checker\_id` VARCHAR(5) NOT NULL,  `bus\_route\_id` VARCHAR(5) NOT NULL,  `no\_of\_seats` VARCHAR(5) NOT NULL,  `bus\_type` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`license\_plate\_no`, `bus\_no`),  **FOREIGN KEY** (`bus\_checker\_id`) **REFERENCES** `dart`.`ticket\_checker` (`checker\_id`),  **FOREIGN KEY** (`bus\_checker\_id`)**REFERENCES** `dart`.`ticket\_checker` (`checker\_id`)); |
|  | | |
| **12** | **ticket** | **CREATE TABLE** `dart`.`**ticket**` (  `ticket\_id` VARCHAR(5) NOT NULL,  `t\_checker\_id` VARCHAR(5) NOT NULL,  `t\_bus\_no` VARCHAR(7) NOT NULL,  `seat\_no` VARCHAR(2) NOT NULL,  `price` INT NOT NULL,  `date` DATE NOT NULL,  **PRIMARY KEY** (`ticket\_id`, `t\_checker\_id`, `t\_bus\_no`),  **FOREIGN KEY** (`t\_checker\_id`) **REFERENCES** `dart`.`ticket\_checker` (`checker\_id`),  **FOREIGN KEY** (`t\_bus\_no`) **REFERENCES** `dart`.`bus` (`license\_plate\_no`)); |
|  | | |
| **13** | **bus\_stop** | **CREATE TABLE** `dart`.`**bus\_stop**` (  `stop\_no` VARCHAR(5) NOT NULL,  `stop\_route\_id` VARCHAR(5) NULL,  `location` VARCHAR(45) NULL,  **PRIMARY KEY** (`stop\_no`),  **FOREIGN KEY** (`stop\_route\_id`) **REFERENCES** `dart`.`route` (`route\_id`)); |
|  | | |
| **14** | **timetable** | **CREATE TABLE** `dart`.`**timetable**` (  `tt\_id` VARCHAR(4) NOT NULL,  `day` VARCHAR(3) NULL,  `start\_time` TIME NULL,  `end\_time` TIME NULL,  `interval` INT NULL,  **PRIMARY KEY** (`tt\_id`)); |
|  | | |
| **15** | **payment\_**  **details** | **CREATE TABLE** `dart`.`**payment\_details**` (  `payment\_id` VARCHAR(5) NOT NULL,  `p\_ticket\_id` VARCHAR(5) NULL,  `amount` DOUBLE NULL,  **PRIMARY KEY** (`payment\_id`),  **FOREIGN KEY** (`p\_ticket\_id`) **REFERENCES** `dart`.`ticket` (`ticket\_id`)); |
|  |  |  |
| **16** | **follows** | **CREATE TABLE** `dart`.`**follows**` (  `f\_bus\_no` VARCHAR(7) NOT NULL,  `f\_tt\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`f\_bus\_no`, `f\_tt\_id`),  **FOREIGN KEY** (`f\_tt\_id`) **REFERENCES** `dart`.`timetable` (`tt\_id`),  **FOREIGN KEY** (`f\_bus\_no`) **REFERENCES** `dart`.`bus` (`license\_plate\_no`) ); |
|  | | |
| **17** | **terminal** | **CREATE TABLE** `dart`.`**terminal**` (  `terminal\_id` VARCHAR(5) NOT NULL,  `location` VARCHAR(45) NULL,  **PRIMARY KEY** (`terminal\_id`)); |
|  | | |
| **18** | **parks** | **CREATE TABLE** `dart`.`**parks**` (  `p\_terminal\_id` VARCHAR(5) NOT NULL,  `p\_bus\_no` VARCHAR(7) NOT NULL,  `time` TIME NULL,  `date` DATE NULL,  `duration` INT NULL,  **PRIMARY KEY** (`p\_terminal\_id`, `p\_bus\_no`),  **FOREIGN KEY** (`p\_terminal\_id`)  **REFERENCES** `dart`.`terminal` (`terminal\_id`),  **FOREIGN KEY** (`p\_bus\_no`) **REFERENCES** `dart`.`bus` (`license\_plate\_no`)); |
|  | | |
| **19** | **pass** | **CREATE TABLE** `dart`.`**pass**` (  `pass\_id` VARCHAR(5) NOT NULL,  `p\_a\_star\_id` VARCHAR(5) NOT NULL,  `p\_checker\_id` VARCHAR(5) NOT NULL,  `issue\_date` DATE NULL,  `expiry\_date` DATE NULL,  `price` VARCHAR(45) NULL,  **PRIMARY KEY** (`pass\_id`, `p\_a\_star\_id`, `p\_checker\_id`),  **FOREIGN KEY** (`p\_a\_star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (`a\_star\_id`),  **FOREIGN KEY** (`p\_checker\_id`) **REFERENCES** `dart`.`ticket\_checker` (`checker\_id`)); |
|  | | |
| **20** | **sells** | **CREATE TABLE** `dart`.`**sells**` (  `s\_staff\_id` VARCHAR(5) NOT NULL,  `s\_ticket\_id` VARCHAR(5) NOT NULL,  `s\_pass\_id` VARCHAR(5) NOT NULL,  `date\_time` VARCHAR(45) NULL,  **PRIMARY KEY** (`s\_staff\_id`, `s\_ticket\_id`, `s\_pass\_id`),  **FOREIGN KEY** (`s\_ticket\_id`) **REFERENCES** `dart`.`ticket` (`ticket\_id`)  **FOREIGN KEY** (`s\_pass\_id`) **REFERENCES** `dart`.`pass` (`pass\_id`),  **FOREIGN KEY** (`s\_staff\_id`) **REFERENCES** `dart`.`staff` (`staff\_id`)); |
|  | | |
| **21** | **buys** | **CREATE TABLE** `dart`.`**buys**` (  `b\_passenger\_id` VARCHAR(5) NOT NULL,  `b\_ticket\_id` VARCHAR(5) NOT NULL,  `date\_time` VARCHAR(45) NULL,  **PRIMARY KEY** (`b\_passenger\_id`, `b\_ticket\_id`),  **FOREIGN KEY** (`b\_passenger\_id`) **REFERENCES** `dart`.`a\_class\_passenger` (`passenger\_id`),  **FOREIGN KEY** (`b\_ticket\_id`) **REFERENCES** `dart`.`ticket` (`ticket\_id`)); |
|  | | |
| **22** | **checks** | **CREATE TABLE** `dart`.`**checks**` (  `c\_ticket\_id` VARCHAR(5) NOT NULL,  `c\_checker\_id` VARCHAR(5) NOT NULL,  `c\_pass\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`c\_ticket\_id`, `c\_checker\_id`, `c\_pass\_id`),  **FOREIGN KEY** (`c\_ticket\_id`) **REFERENCES** `dart`.`ticket` (`ticket\_id`),  **FOREIGN KEY** (`c\_checker\_id`) **REFERENCES** `dart`.`ticket\_checker` (`checker\_id`),  **FOREIGN KEY** (`c\_pass\_id`) **REFERENCES** `dart`.`pass` (`pass\_id`)); |
|  | | |
| **23** | **drives** | **CREATE TABLE** `dart`.`**drives**` (  `d\_driver\_id` VARCHAR(5) NOT NULL,  `d\_bus\_no` VARCHAR(7) NOT NULL,  `date` DATE NULL,  **PRIMARY KEY** (`d\_driver\_id`, `d\_bus\_no`),  **FOREIGN KEY** (`d\_driver\_id`) **REFERENCES** `dart`.`bus\_driver` (`driver\_id`),  **FOREIGN KEY** (`d\_bus\_no`) **REFERENCES** `dart`.`bus` (`license\_plate\_no`)); |
|  | | |
| **24** | **guest** | **CREATE TABLE** `dart`.`**guest**` (  `guest\_id` VARCHAR(5) NOT NULL,  `a\_Star\_id` VARCHAR(5) NOT NULL,  `f\_name` VARCHAR(45) NOT  NULL,  `m\_name` VARCHAR(45) NOT  NULL,  `l\_name` VARCHAR(45) NOT  NULL,  `street` VARCHAR(45) NOT NULL,  `apt\_no` VARCHAR(5) NOT NULL,  `zip\_code` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`guest\_id`, `a\_Star\_id`),  **FOREIGN KEY** (`a\_Star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (`a\_star\_id`)); |
|  | | |
| **25** | **travel\_card** | **CREATE TABLE** `dart`.`**travel\_card**` (  `card\_id` VARCHAR(5) NOT NULL,  `card\_a\_star\_id` VARCHAR(5) NOT NULL,  `issue\_date` DATE NOT NULL,  `expiry\_date` DATE NOT NULL,  **PRIMARY KEY** (`card\_id`, `card\_a\_star\_id`),  **FOREIGN KEY** (`card\_a\_star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (`a\_star\_id`)); |
|  | | |
| **26** | **guest\_phone** | **CREATE TABLE** `dart`.`**guest\_phone**` (  `phn\_guest\_id` VARCHAR(5) NOT NULL,  `phone\_no` VARCHAR(10) NOT NULL,  **PRIMARY** **KEY** (`phn\_guest\_id`, `phone\_no`),  **FOREIGN KEY** (`phn\_guest\_id`) **REFERENCES** `dart`.`guest` (`guest\_id`)); |
|  | | |
| **27** | **promotional\_**  **discount** | **CREATE TABLE** `dart`.`**promotional\_discount**` (  `promo\_id` VARCHAR(5) NOT NULL,  `pd\_a\_star\_id` VARCHAR(5) NOT NULL,  `pd\_card\_id` VARCHAR(5) NOT NULL,  `day` VARCHAR(3) NULL,  `discount\_percent` INT NULL,  `description` VARCHAR(45) NULL,  **PRIMARY KEY** (`promo\_id`, `pd\_a\_star\_id`, `pd\_card\_id`),  **FOREIGN KEY** (`pd\_a\_star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (`a\_star\_id`),  **FOREIGN KEY** (`pd\_card\_id`) **REFERENCES** `dart`.`travel\_card` (`card\_id`)); |
|  | | |
| **28** | **contains** | **CREATE TABLE** `dart`.`**contains**` (  `c\_card\_id` VARCHAR(5) NOT NULL,  `c\_promo\_id` VARCHAR(5) NOT NULL,  `c\_a\_star\_id` VARCHAR(5) NOT NULL,  **PRIMARY KEY** (`c\_card\_id`, `c\_promo\_id`, `c\_a\_star\_id`),  **FOREIGN KEY** (`c\_card\_id`) **REFERENCES** `dart`.`travel\_card` (`card\_id`), **FOREIGN** **KEY** (`c\_promo\_id`) **REFERENCES** `dart`.`promotional\_discount` (`promo\_id`),  **FOREIGN KEY** (`c\_a\_star\_id`) **REFERENCES** `dart`.`a\_star\_passenger` (`a\_star\_id`)); |
|  | | |
| **29** | **can\_have** | **CREATE** TABLE `dart`.`**can\_have**` (  `ch\_pass\_id` VARCHAR(5) NOT NULL,  `ch\_passenger\_id` VARCHAR(5) NOT NULL,  `month` VARCHAR(10) NULL,  **PRIMARY KEY** (`ch\_pass\_id`, `ch\_passenger\_id`),  **FOREIGN KEY** (`ch\_pass\_id`) **REFERENCES** `dart`.`pass` (`pass\_id`),  **FOREIGN KEY** (`ch\_passenger\_id`) **REFERENCES** `dart`.`a\_class\_passenger` (`passenger\_id`)); |
|  | | |