

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`));