Exercise 1.1:

```sql
# Exercise 1.1
CREATE TABLE `dim_customers` (
    `customer_key` int NOT NULL AUTO_INCREMENT,
    `company` varchar(50) DEFAULT NULL,
    `last_name` varchar(50) DEFAULT NULL,
    `first_name` varchar(50) DEFAULT NULL,
    `email_address` varchar(50) DEFAULT NULL,
    `job_title` varchar(50) DEFAULT NULL,
    `business_phone` varchar(25) DEFAULT NULL,
    `home_phone` varchar(25) DEFAULT NULL,
    `mobile_phone` varchar(25) DEFAULT NULL,
    `fax_number` varchar(25) DEFAULT NULL,
    `address` longtext,
    `city` varchar(50) DEFAULT NULL,
    `state_province` varchar(50) DEFAULT NULL,
    `zip_postal_code` varchar(15) DEFAULT NULL,
    `country_region` varchar(50) DEFAULT NULL,
    PRIMARY KEY (`customer_key`),
    KEY `city` (`city`),
    KEY `company` (`company`),
    KEY `first_name` (`first_name`),
    KEY `last_name` (`last_name`),
    KEY `zip_postal_code` (`zip_postal_code`),
    KEY `state_province` (`state_province`)
) ENGINE=InnoDB AUTO_INCREMENT=30 DEFAULT CHARSET=utf8mb3;
```

```sql
CREATE TABLE `dim_employees` (
    `employee_key` int NOT NULL AUTO_INCREMENT,
    `company` varchar(50) DEFAULT NULL,
    `last_name` varchar(50) DEFAULT NULL,
    `first_name` varchar(50) DEFAULT NULL,
    `email_address` varchar(50) DEFAULT NULL,
    `job_title` varchar(50) DEFAULT NULL,
    `business_phone` varchar(25) DEFAULT NULL,
    `home_phone` varchar(25) DEFAULT NULL,
    `mobile_phone` varchar(25) DEFAULT NULL,
    `fax_number` varchar(25) DEFAULT NULL,
    `address` longtext,
    `city` varchar(50) DEFAULT NULL,
    `state_province` varchar(50) DEFAULT NULL,
    `zip_postal_code` varchar(15) DEFAULT NULL,
    `country_region` varchar(50) DEFAULT NULL,
    PRIMARY KEY (`employee_key`),
    KEY `city` (`city`),
    KEY `company` (`company`),
    KEY `first_name` (`first_name`),
    KEY `last_name` (`last_name`),
    KEY `zip_postal_code` (`zip_postal_code`),
    KEY `state_province` (`state_province`)
) ENGINE=InnoDB AUTO_INCREMENT=10 DEFAULT CHARSET=utf8mb3;
```

```sql
CREATE TABLE `dim_products` (
    `supplier_ids` longtext,
    `product_key` int NOT NULL AUTO_INCREMENT,
    `product_code` varchar(25) DEFAULT NULL,
    `product_name` varchar(50) DEFAULT NULL,
    `description` longtext,
    `standard_cost` decimal(19,4) DEFAULT '0.0000',
    `list_price` decimal(19,4) NOT NULL DEFAULT '0.0000',
    `reorder_level` int DEFAULT NULL,
    `target_level` int DEFAULT NULL,
    `quantity_per_unit` varchar(50) DEFAULT NULL,
    `discontinued` tinyint(1) NOT NULL DEFAULT '0',
    `minimum_reorder_quantity` int DEFAULT NULL,
    `category` varchar(50) DEFAULT NULL,
    PRIMARY KEY (`product_key`),
    KEY `product_code` (`product_code`)
) ENGINE=InnoDB AUTO_INCREMENT=100 DEFAULT CHARSET=utf8mb3;
```

```sql
CREATE TABLE `dim_shippers` (
    `shipper_key` int NOT NULL AUTO_INCREMENT,
    `company` varchar(50) DEFAULT NULL,
    `last_name` varchar(50) DEFAULT NULL,
    `first_name` varchar(50) DEFAULT NULL,
    `email_address` varchar(50) DEFAULT NULL,
    `job_title` varchar(50) DEFAULT NULL,
    `business_phone` varchar(25) DEFAULT NULL,
    `home_phone` varchar(25) DEFAULT NULL,
    `mobile_phone` varchar(25) DEFAULT NULL,
    `fax_number` varchar(25) DEFAULT NULL,
    `address` longtext,
    `city` varchar(50) DEFAULT NULL,
    `state_province` varchar(50) DEFAULT NULL,
    `zip_postal_code` varchar(15) DEFAULT NULL,
    `country_region` varchar(50) DEFAULT NULL,
    PRIMARY KEY (`shipper_key`),
    KEY `city` (`city`),
    KEY `company` (`company`),
    KEY `first_name` (`first_name`),
    KEY `last_name` (`last_name`),
    KEY `zip_postal_code` (`zip_postal_code`),
    KEY `state_province` (`state_province`)
) ENGINE=InnoDB AUTO_INCREMENT=4 DEFAULT CHARSET=utf8mb3;
```

Exercise 1.2:

```sql
# Exercise 1.2
CREATE TABLE `fact_orders` (
    `order_id` int,
    `employee_id` int,
    `customer_id` int,
    `product_id` int,
    `shipper_id` int,
    `order_date` datetime DEFAULT NULL,
    `shipped_date` datetime DEFAULT NULL,
    `ship_name` varchar(50) DEFAULT NULL,
    `ship_address` longtext,
    `ship_city` varchar(50) DEFAULT NULL,
    `ship_state_province` varchar(50) DEFAULT NULL,
    `ship_zip_postal_code` varchar(50) DEFAULT NULL,
    `ship_country_region` varchar(50) DEFAULT NULL,
    `shipping_fee` decimal(19,4) DEFAULT '0.0000',
    `taxes` decimal(19,4) DEFAULT '0.0000',
    `payment_type` varchar(50) DEFAULT NULL,
    `paid_date` datetime DEFAULT NULL,
    `tax_rate` double DEFAULT '0',
    `quantity` decimal(18,4) NOT NULL DEFAULT '0.0000',
    `unit_price` decimal(19,4) DEFAULT '0.0000',
    `discount` double NOT NULL DEFAULT '0',
    `purchase_order_id` int DEFAULT NULL,
    `inventory_id` int DEFAULT NULL,
    `order_status_name` varchar(50) NOT NULL,
    `order_details_status_name` varchar(50) NOT NULL
);
```

Exercise 2.2:

```
# Exercise 2.2
INSERT INTO `northwind_dw`.`fact_orders`
) (`order_id`,
SELECT `orders`.`id`,
    `orders`.`employee_id`,
    `orders`.`customer_id`,
    `order_details`.`product_id`,
    `orders`.`shipper_id`,
    `orders`.`order_date`,
    `orders`.`shipped_date`,
    `orders`.`ship_name`,
    `orders`.`ship_address`,
    `orders`.`ship_city`,
    `orders`.`ship_state_province`,
    `orders`.`ship_zip_postal_code`,
    `orders`.`ship_country_region`,
    `orders`.`shipping_fee`,
    `orders`.`taxes`,
    `orders`.`payment_type`,
    `orders`.`paid_date`,
    `orders`.`tax_rate`,
    `order_details`.`quantity`,
    `order_details`.`unit_price`,
    `order_details`.`discount`,
    `order_details`.`purchase_order_id`,
    `order_details`.`inventory_id`,
    `orders_status`.`status_name`,
    `order_details_status`.`status_name`
FROM `northwind`.`orders`
JOIN `northwind`.`order_details` ON `orders`.`id` = `order_details`.`order_id`
JOIN `northwind`.`orders_status` ON `orders`.`status_id` = `orders_status`.`id`
JOIN `northwind`.`order_details_status` ON `order_details`.`status_id`= `order_details_status`.`id`;
```

Exercise 3.0:

```
318
319
320        # Exercise 3.0
321  *      SELECT `last_name`, `quantity`,`unit_price`
322        FROM `dim_customers`
323        JOIN `fact_orders`  ON `dim_customers`.`customer_key` = `fact_orders`.`customer_id`;
324
```

75%        1:319

**Result Grid**    Filter Rows: Q Search        Export:

| last_name | quantity | unit_price |
|-----------|----------|------------|
| Toh | 100.0000 | 14.0000 |
| Toh | 30.0000 | 3.5000 |
| Lee | 10.0000 | 30.0000 |
| Lee | 10.0000 | 53.0000 |
| Lee | 10.0000 | 3.5000 |
| Edwards | 15.0000 | 18.0000 |
| Edwards | 20.0000 | 46.0000 |
| Andersen | 30.0000 | 9.2000 |
| Lee | 20.0000 | 9.2000 |
| Lee | 10.0000 | 12.7500 |
| Axen | 200.0000 | 9.6500 |
| Pérez-Ol... | 17.0000 | 40.0000 |
| Raghav | 300.0000 | 46.0000 |