

One Less Crochet

Company Overview:

At One Less Crochet, we believe in the power of creativity and craftsmanship, and we're on a mission to make the world a better place, one stitch at a time. Our carefully curated selection of crochet products showcases the finest and most eco-friendly materials available. From organic cotton and bamboo yarns to recycled fibers, we are committed to reducing our carbon footprint and promoting eco-conscious choices in the crafting community.

- **Craft ID:** A unique identifier assigned to every "Craft" product for inventory and tracking purposes.
- **Craft Name:** The name or title given to the specific "Craft" product, helping customers easily identify and refer to it.
- **Selling Price:** The retail price at which the "Craft" product is offered to customers.
- **Manufacturing Cost:** The total cost incurred during the production of the "Craft" item, including materials, labor, and other production expenses.
- **Size:** The dimensions or measurements of the "Craft" product, providing customers with information about its physical size.
- **Color:** The color or color variants available for the "Craft" product, allowing customers to select their preferred option.
- **Type:** The size variations available for the "Craft" product. The values can be XS, S, M, L, and XL, indicating different size options suitable for various crafting projects.
- **Fit:** If applicable, the "Fit" attribute indicates the compatibility of the "Craft" product with specific crafting materials or other accessories.
- **Description:** A detailed and engaging description of the "Craft" product, highlighting its features, benefits, and eco-friendly nature. This description would entice customers to choose "Craft" and provide essential information about its use and purpose in crafting projects.

By carefully defining these attributes for the "Craft" product, One Less Craft can efficiently manage its inventory, assist customers in making informed decisions, and showcase the product's unique selling points, ultimately enhancing the overall customer experience.

Product: **Crafts**

Product Attributes:

Attributes	Sample Data
Craft ID	100001
Craft Name	Cushion Macrame
Selling Price	43.97
Manufacturing Cost	15.64
Size	M
Color	Beige
Type	Macrame
Fit	Null
Description	This beautiful woven cushion is ideal to add some boho chic to your home. Tied using our most sustainable, recycled cotton yarn Nova Vita 4 in a calming neutral cream shade.

One Less Craft

347 Kings Street
Toronto, ON M1C 2J8
647-876-3589

Customer Sales Invoice

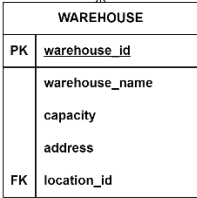
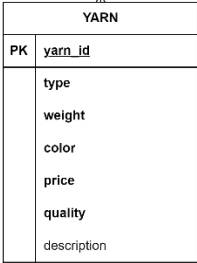
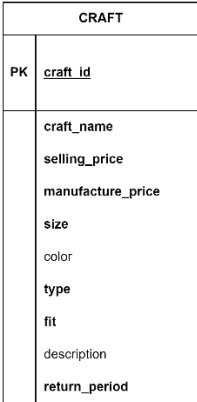
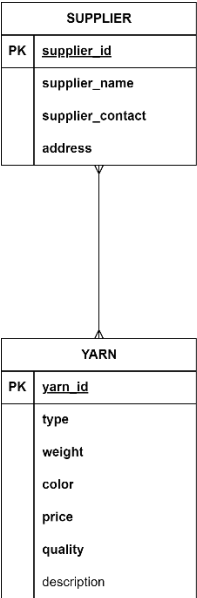
Customer ID: 000123
Customer Name: Stephen H.
Customer Address: 1070 Sheppard Ave
Toronto, ON M4K 5H8

Order ID: 09101
Order Date: 02/10/2019
Associate ID: 501
Associate Name: John Doe

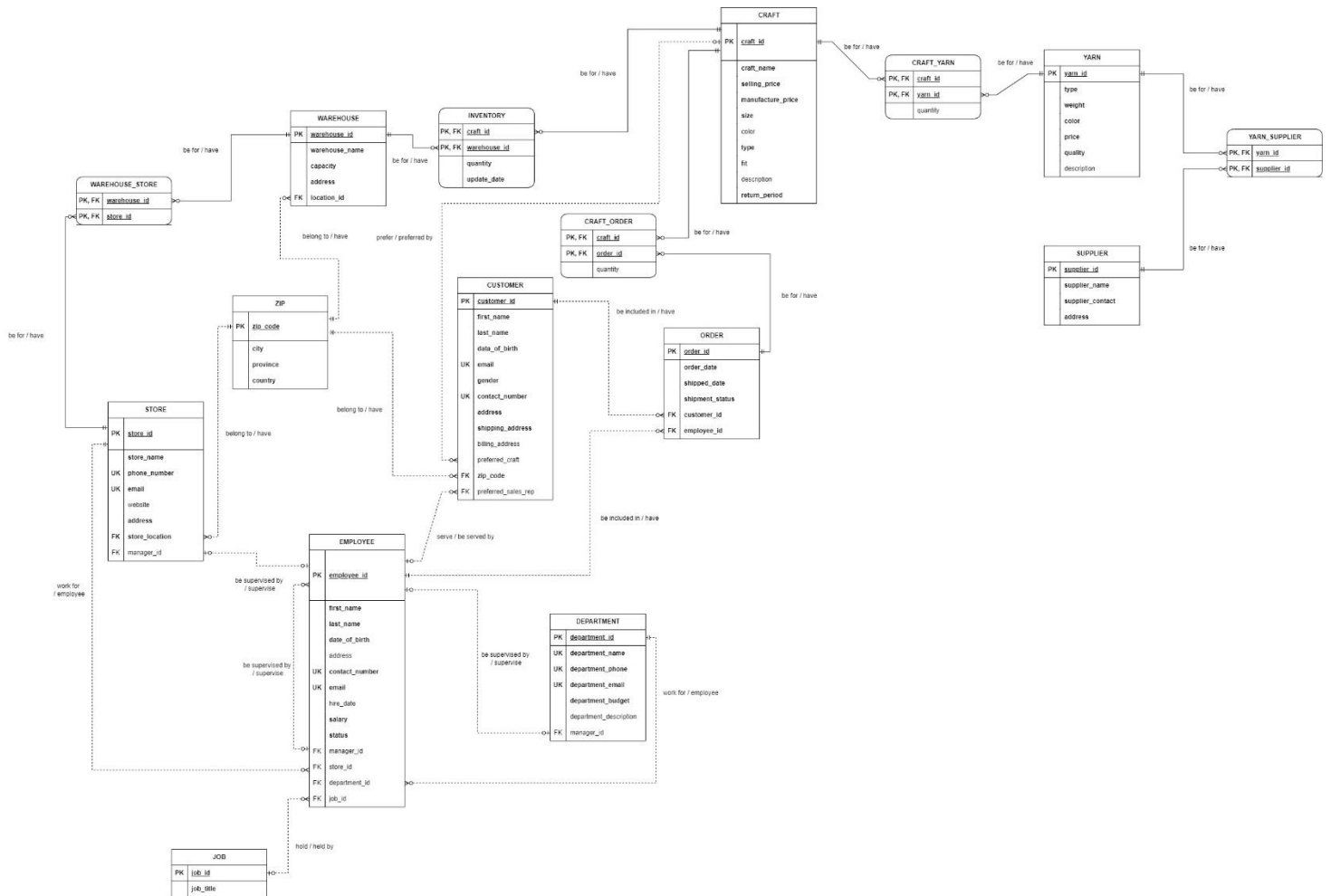
Product ID	Name	Size	Fit	Color	Description	Qty	Unit Price	Extended Price
LB171	62-12345	M			Cordless Electric Lawn Mower	2	\$595.00	\$1190.00
BD518	59-98765	S			Riding Lawn Mower	1	\$1449.00	\$1449.00
CM713	36-59278	XL			Self-Propelled Gas Push Mower	2	\$625.00	\$1250.00
							Sub-total	\$3889.00
							Tax	\$505.57
							Invoice Total	\$4,394.57

Entity Relationship Diagram

Many To Many Relationships



Entity Relationship Diagram (Many to Many relationships resolved)



ERD Language

- Each **EMPLOYEE** must work for zero or one **DEPARTMENT**.
- Each **DEPARTMENT** may employee zero, one or more **EMPLOYEE**s.
- Each **EMPLOYEE** may supervise zero or one **DEPARTMENT**.
- Each **DEPARTMENT** may be supervised by zero or one **EMPLOYEE**.
- Each **EMPLOYEE** (Mgr. role) may supervise zero, one or more **EMPLOYEE**s (Emp role).
- Each **EMPLOYEE** (Emp role) may be supervised by zero or one **EMPLOYEE** (Mgr. role).
- Each **EMPLOYEE** must work for one and only one **STORE**.
- Each **STORE** must employee one or more **EMPLOYEE**s.
- Each **EMPLOYEE** may supervise one and only one **STORE**.
- Each **STORE** may be supervised by one and only one **EMPLOYEE**.
- Each **EMPLOYEE** may be included in zero, one or more **ORDER**s.
- Each **ORDER** must have one and only one **EMPLOYEE**.

Each EMPLOYEE may hold one and only one JOB.
Each JOB may be held by zero, one or more EMPLOYEES.
Each EMPLOYEE may serve zero, one or more CUSTOMERS.
Each CUSTOMER may be served by zero or one EMPLOYEE.
Each CUSTOMER must have one and only one ZIP.
Each CUSTOMER may prefer zero or one CRAFT.
Each CRAFT may be preferred by zero, one or more CUSTOMERS.
Each ZIP may belong to zero, one or more CUSTOMERS.
Each ZIP may belong to zero, one or more WAREHOUSEs.
Each WAREHOUSE must have one and only one ZIP.
Each ZIP may belong to zero, one or more STOREs.
Each STORE must have one and only one ZIP.
Each CUSTOMER may be included in zero, one or more ORDERS.
Each ORDER must have one and only one CUSTOMER.

Each ORDER may have zero, one or more ORDER_CRAFTs.
Each ORDER_CRAFT must be for one and only one ORDER.
Each CRAFT may have zero, one or more ORDER_CRAFTs.
Each ORDER_CRAFT must be for one and only one CRAFT.

Each CRAFT may have zero, one or more CRAFT_YARNs.
Each CRAFT_YARN must be for one and only one CRAFT.
Each YARN may have zero, one or more CRAFT_YARNs.
Each CRAFT_YARN must be for one and only one YARN.

Each CRAFT may have zero, one or more INVENTORYs.
Each INVENTORY must be for one and only one CRAFT.
Each WAREHOUSE may have zero, one or more INVENTORYs.
Each INVENTORY must be for one and only one WAREHOUSE.

Each WAREHOUSE may have zero one or more WAREHOUSE_STOREs.
Each WAREHOUSE_STORE must be for one and only one WAREHOUSE.
Each STORE may have zero one or more WAREHOUSE_STOREs.
Each WAREHOUSE_STORE must be for one and only one STORE.

Each YARN may be supplied by zero, one or more YARN_SUPPLIERs.
Each YARN_SUPPLIER must be for one and only one YARN.
Each SUPPLIER may be supply zero, one or more YARN_SUPPLIER.
Each YARN_SUPPLIER must be for one and only one SUPPLIER.

Relational Data Model (Physical DM)

WAREHOUSE_STORES				
Key Type	Optionality	Column Name	Data Type	Length
pk, fk	*	warehouse_id	numeric	(6,0)
pk, fk	*	store_id	numeric	(6,0)
CRAFT_YARNS				
Key Type	Optionality	Column Name	Data Type	Length
pk, fk	*	craft_id	numeric	(6,0)
pk, fk	*	yarn_id	numeric	(6,0)
	0	quantity	numeric	(6,0)
YARN_SUPPLIERS				
Key Type	Optionality	Column Name	Data Type	Length
pk, fk	*	yarn_id	numeric	(6,0)
pk, fk	*	supplier_id	numeric	(6,0)
CRAFT_ORDERS				
Key Type	Optionality	Column Name	Data Type	Length
pk, fk	*	craft_id	numeric	(6,0)
pk, fk	*	order_id	numeric	(6,0)
	*	quantity	numeric	(10,0)
SUPPLIERS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	supplier_id	numeric	(6,0)
	*	supplier_name	numeric	(6,0)
	*	supplier_contact	varchar	10
	*	supplier_address	varchar	50
JOBS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	job_id	numeric	(5,0)
	*	job_title	varchar	30
YARNS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	yarn_id	numeric	(6,0)
	*	yarn_type	varchar	15
	*	yarn_weight	varchar	15
	*	yarn_color	varchar	15
	*	yarn_price	numeric	(9,2)
	*	yarn_quality	varchar	20
	0	yarn_description	varchar	100
INVENTORIES				
Key Type	Optionality	Column Name	Data Type	Length
pk, fk	*	warehouse_id	numeric	(5,0)
pk, fk	*	craft_id	numeric	(6,0)
	*	quantity	numeric	(8,0)
	*	update_date	date	

CUSTOMERS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	customer_id	numeric	(6,0)
	*	first_name	varchar	20
	*	last_name	varchar	20
	*	date_of_birth	date	
uk	*	email	varchar	50
	o	gender	varchar	1
uk	*	contact_number	varchar	10
	*	address	varchar	50
	*	shipping address	varchar	50
	o	billing_address	varchar	50
fk	o	favorite_craft	numeric	(6,0)
fk	*	zip_code	varchar	10
fk	o	preferred_sales_rep	varchar	20
CRAFTS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	craft_id	numeric	(6,0)
	*	craft_name	varchar	20
	*	selling_price	numeric	(9,2)
	*	manufacturing_cost	numeric	(9,2)
	*	size	varchar	4
	o	colour	varchar	20
	*	craft_type	varchar	20
	*	fit	varchar	20
	o	craft_description	varchar	100
STORES				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	store_id	numeric	(6,0)
	*	store_name	varchar	20
uk	*	phone_number	varchar	10
uk	*	email	varchar	30
	o	website	varchar	30
	*	address	varchar	50
fk	*	zip_code	varchar	10
fk	o	manager_id	numeric	(6,0)
ZIPS				
Key Type	Optionality	Column Name	Data Type	Length
PK	*	zip_code	varchar	10
	*	city	varchar	20
	*	province	varchar	20
	*	country	varchar	20
WAREHOUSE				
Key Type	Optionality	Column Name	Datatype	Length
pk	*	warehouse_id	numeric	(6,0)
	*	warehouse_name	varchar	30
	*	address	varchar	50
	*	capacity	numeric	(8,2)
fk	*	zip_code	varchar	10
ORDER				
Key type	Optionality	column name	datatype	length
pk	*	order_id	numeric	(5,0)
	*	order_date	date	
	*	shipped_date	date	
	*	shipped_status	varchar	15
fk	*	customer_id	numeric	(6,0)
fk	*	employee_id	numeric	(6,0)
	*	return_period	varchar	30

CUSTOMERS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	customer_id	numeric	(6,0)
	*	first_name	varchar	20
	*	last_name	varchar	20
	*	date_of_birth	date	
uk	*	email	varchar	50
	o	gender	varchar	1
uk	*	contact_number	varchar	10
	*	address	varchar	50
	*	shipping address	varchar	50
	o	billing_address	varchar	50
fk	o	favorite_craft	numeric	(6,0)
fk	*	zip_code	varchar	10
fk	o	preferred_sales_rep	varchar	20
CRAFTS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	craft_id	numeric	(6,0)
	*	craft_name	varchar	20
	*	selling_price	numeric	(9,2)
	*	manufacturing_cost	numeric	(9,2)
	*	size	varchar	4
	o	colour	varchar	20
	*	craft_type	varchar	20
	*	fit	varchar	20
	o	craft_description	varchar	100
STORES				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	store_id	numeric	(6,0)
	*	store_name	varchar	20
uk	*	phone_number	varchar	10
uk	*	email	varchar	30
	o	website	varchar	30
	*	address	varchar	50
fk	*	zip_code	varchar	10
fk	o	manager_id	numeric	(6,0)
ZIPS				
Key Type	Optionality	Column Name	Data Type	Length
PK	*	zip_code	varchar	10
	*	city	varchar	20
	*	province	varchar	20
	*	country	varchar	20
WAREHOUSES				
Key Type	Optionality	Column Name	Datatype	Length
pk	*	warehouse_id	numeric	(6,0)
	*	warehouse_name	varchar	30
	*	address	varchar	50
	*	capacity	numeric	(8,2)
fk	*	zip_code	varchar	10
ORDERS				
Key type	Optionality	column name	datatype	length
pk	*	order_id	numeric	(5,0)
	*	order_date	date	
	*	shipped_date	date	
	*	shipped_status	varchar	15
fk	*	customer_id	numeric	(6,0)
fk	*	employee_id	numeric	(6,0)
	*	return_period	varchar	30

EMPLOYEES				
Key type	Optionality	column name	datatype	length
pk	*	employee_id	numeric	(6,0)
	*	first_name	varchar	20
	*	last_name	varchar	20
	*	date_of_birth	date	
	o	address	varchar	50
uk	*	contact_number	numeric	(10,0)
uk	*	email	varchar	50
	o	hire_date	date	
	*	salary	numeric	(9,2)
	*	emp_status	varchar	15
fk	o	manger_id	numeric	(6,0)
fk	o	store_id	numeric	(6,0)
fk	o	department_id	numeric	(6,0)
fk	o	job_id	numeric	(6,0)
DEPARTMENTS				
Key type	Optionality	column name	datatype	length
pk	*	department_id	numeric	(6,0)
uk	*	department_name	varchar	30
uk	*	department_phone	varchar	10
uk	*	department_email	varchar	50
	*	department_budget	numeric	(9,2)
	o	department_description	varchar	100
fk	o	manger_id	numeric	(6,0)

DDL Statements

```
CREATE SCHEMA one_less_craft;
```

TABLES

```
CREATE TABLE crafts (  
    craft_id NUMERIC(6,0) NOT NULL,  
    craft_name VARCHAR(20) NOT NULL,  
    selling_price NUMERIC(9,2) NOT NULL,  
    manufacturing_cost NUMERIC(9,2) NOT NULL,  
    size VARCHAR(4) NOT NULL,  
    color VARCHAR(20),  
    craft_type VARCHAR(20) NOT NULL,  
    fit VARCHAR(20) NOT NULL,  
    craft_description VARCHAR(100));
```

```
-- Primary Key
```

```
ALTER TABLE crafts  
    ADD CONSTRAINT crafts_craft_id_pk  
    PRIMARY KEY (craft_id);
```

```
-- Constraints
```

```
ALTER TABLE crafts  
    ADD CONSTRAINT crafts_selling_price_gt_manufacturing_cost  
    CHECK (selling_price > manufacturing_cost);
```

```
ALTER TABLE crafts  
    ADD CONSTRAINT crafts_size  
    CHECK (size IN ('xs', 's', 'm', 'l', 'xl'));
```

```
CREATE TABLE customers (  
    customer_id NUMERIC(6,0) NOT NULL,  
    first_name VARCHAR(20) NOT NULL,  
    last_name VARCHAR(20) NOT NULL,  
    date_of_birth DATE NOT NULL,  
    email VARCHAR(50) NOT NULL,  
    gender CHAR(1),  
    contact_number VARCHAR(10) NOT NULL,  
    address VARCHAR(50) NOT NULL,  
    shipping_address VARCHAR(50) NOT NULL,  
    billing_address VARCHAR(50),  
    favorite_craft NUMERIC(6,0),  
    zip_code VARCHAR(10) NOT NULL,  
    preferred_sales_rep NUMERIC(6,0));
```

```
-- Primary Key
```

```
ALTER TABLE customers  
    ADD CONSTRAINT customers_customer_id_pk  
    PRIMARY KEY (customer_id);
```

```
-- Unique Keys
```

```
ALTER TABLE customers  
    ADD CONSTRAINT customers_email_uk
```

```

        UNIQUE KEY (email);

ALTER TABLE customers
    ADD CONSTRAINT customers_contact_number_uk
    UNIQUE KEY (contact_number);

-- Constraints
ALTER TABLE customers
    ADD CONSTRAINT customers_email
    CHECK (email LIKE '%@%.%');

ALTER TABLE customers
    ADD CONSTRAINT customer_gender
    CHECK (gender IN ('M', 'F'));

-----

CREATE TABLE departments (
    department_id NUMERIC(6,0) NOT NULL,
    department_name VARCHAR(30) NOT NULL,
    department_phone VARCHAR(10) NOT NULL,
    department_email VARCHAR(50) NOT NULL,
    department_budget NUMERIC(9,2) NOT NULL,
    department_description VARCHAR(100),
    manager_id NUMERIC(6,0));

-- Primary Key
ALTER TABLE departments
    ADD CONSTRAINT departments_department_id_pk
    PRIMARY KEY (department_id);

-- Unique Keys
ALTER TABLE departments
    ADD CONSTRAINT departments_department_name_uk
    UNIQUE (department_name);

ALTER TABLE departments
    ADD CONSTRAINT departments_department_phone_uk
    UNIQUE (department_phone);

ALTER TABLE departments
    ADD CONSTRAINT departments_department_email_uk
    UNIQUE (department_email);

-- Constraints
ALTER TABLE departments
    ADD CONSTRAINT departments_department_email
    CHECK (department_email LIKE '%@%.%');

ALTER TABLE departments
    ADD CONSTRAINT departments_department_budget
    CHECK (department_budget >= 100000 AND department_budget <= 1000000);

-----

CREATE TABLE employees (
    employee_id NUMERIC(6,0) NOT NULL,
    first_name VARCHAR(20) NOT NULL,
    last_name VARCHAR(20) NOT NULL,
    date_of_birth DATE NOT NULL,

```

```

    address VARCHAR(50),
    contact_number NUMERIC(10,0) NOT NULL,
    email VARCHAR(50) NOT NULL,
    hire_date DATE DEFAULT (CURRENT_DATE),
    salary NUMERIC(9,2) NOT NULL,
    emp_status VARCHAR(15) NOT NULL,
    manager_id NUMERIC(6,0),
    store_id NUMERIC(6,0),
    department_id NUMERIC(6,0),
    job_id NUMERIC(6,0));

-- Primary Key
ALTER TABLE employees
    ADD CONSTRAINT employees_employee_id_pk
    PRIMARY KEY (employee_id);

-- Unique Key
ALTER TABLE employees
    ADD CONSTRAINT employees_contact_number_uk
    UNIQUE KEY (contact_number);

ALTER TABLE employees
    ADD CONSTRAINT employees_email_uk
    UNIQUE KEY (email);

-- Constraints
ALTER TABLE employees
    ADD CONSTRAINT employees_salary_range
    CHECK (salary >= 20000 AND salary <= 200000);

ALTER TABLE employees
    ADD CONSTRAINT employees_emp_status
    CHECK (emp_status IN ('Active', 'Inactive', 'Retired', 'On Vacation'));

ALTER TABLE employees
    ADD CONSTRAINT employees_hire_date_gt_date_of_birth
    CHECK (hire_date > date_of_birth);

ALTER TABLE employees
    ADD CONSTRAINT employees_email
    CHECK (email LIKE '%@%.%');

-----
CREATE TABLE jobs (
    job_id NUMERIC(6,0) NOT NULL,
    job_title VARCHAR(30) NOT NULL);

-- Primary Key
ALTER TABLE jobs
    ADD CONSTRAINT jobs_job_id_pk
    PRIMARY KEY (job_id);

-----
CREATE TABLE orders (
    order_id NUMERIC(6,0) NOT NULL,
    order_date DATE NOT NULL DEFAULT (CURRENT_DATE),
    shipped_date DATE NOT NULL,
    shipped_status VARCHAR(15) NOT NULL,

```

```

customer_id NUMERIC(6,0) NOT NULL,
employee_id NUMERIC(6,0) NOT NULL,
return_period VARCHAR(30) NOT NULL);

-- Primary Key
ALTER TABLE orders
    ADD CONSTRAINT orders_order_id_pk
    PRIMARY KEY (order_id);

-- Constraints
ALTER TABLE orders
    ADD CONSTRAINT orders_order_date_lt_shipped_date
    CHECK (order_date <= shipped_date);

-----
CREATE TABLE stores (
    store_id NUMERIC(6,0) NOT NULL,
    store_name VARCHAR(20) NOT NULL,
    phone_number VARCHAR(10) NOT NULL,
    email VARCHAR(30) NOT NULL,
    website VARCHAR(30),
    address VARCHAR(50) NOT NULL,
    zip_code VARCHAR(10) NOT NULL,
    manager_id NUMERIC(6,0));

-- Primary Key
ALTER TABLE stores
    ADD CONSTRAINT stores_store_id_pk
    PRIMARY KEY (store_id);

-- Unique Keys
ALTER TABLE stores
    ADD CONSTRAINT stores_phone_number_uk
    UNIQUE KEY (phone_number);

ALTER TABLE stores
    ADD CONSTRAINT stores_email_uk
    UNIQUE KEY (email);

-- Constraints
ALTER TABLE stores
    ADD CONSTRAINT stores_email
    CHECK (email LIKE '%@%.%');

-----
CREATE TABLE suppliers (
    supplier_id NUMERIC(6,0) NOT NULL,
    supplier_name NUMERIC(6,0) NOT NULL,
    supplier_contact VARCHAR (10) NOT NULL,
    supplier_address VARCHAR (50) NOT NULL);

-- Primary Key
ALTER TABLE suppliers
    ADD CONSTRAINT suppliers_supplier_id_pk
    PRIMARY KEY (supplier_id);

-----
CREATE TABLE warehouses (

```

```

warehouse_id NUMERIC(6,0) NOT NULL,
warehouse_name VARCHAR(30) NOT NULL,
address VARCHAR(50) NOT NULL,
capacity NUMERIC(8,2) NOT NULL,
zip_code VARCHAR(10) NOT NULL);

-- Primary Key
ALTER TABLE warehouses
    ADD CONSTRAINT warehouses_warehouse_id_pk
        PRIMARY KEY (warehouse_id);

-----
CREATE TABLE yarns (
    yarn_id NUMERIC(6,0) NOT NULL,
    yarn_type VARCHAR(15) NOT NULL,
    yarn_weight VARCHAR(15) NOT NULL,
    yarn_color VARCHAR(15) NOT NULL,
    yarn_price NUMERIC(9,2) NOT NULL,
    yarn_quality VARCHAR(20) NOT NULL,
    yarn_description VARCHAR(100));

-- Primary Key
ALTER TABLE yarns
    ADD CONSTRAINT yarns_yarn_id_pk
        PRIMARY KEY (yarn_id);

-- Constraints
ALTER TABLE yarns
    ADD CONSTRAINT yarns__yarn_quality
        CHECK (yarn_quality IN ('common', 'rare', 'premium', 'custom'));

ALTER TABLE yarns
    ADD CONSTRAINT yarns_yarn_price
        CHECK (yarn_price > 0);

-----
CREATE TABLE zips (
    zip_code VARCHAR(10) NOT NULL,
    city VARCHAR(20) NOT NULL,
    province VARCHAR(20) NOT NULL,
    country VARCHAR(20) NOT NULL);

-- Primary Key
ALTER TABLE zips
    ADD CONSTRAINT zips_zip_code_pk
        PRIMARY KEY (zip_code);

-----
                                INTERSECTION TABLES
-----

CREATE TABLE inventories (
    warehouse_id NUMERIC(6,0) NOT NULL,
    craft_id NUMERIC(6,0) NOT NULL,
    quantity NUMERIC(8,0) NOT NULL,
    update_date DATE NOT NULL DEFAULT (CURRENT_DATE));

-- Primary Key
ALTER TABLE inventories

```

```

        ADD CONSTRAINT inventories_warehouse_id_craft_id_pk
            PRIMARY KEY (warehouse_id, craft_id);

-- Foreign Key
ALTER TABLE inventories
    ADD CONSTRAINT inventories_warehouse_id_fk
        FOREIGN KEY (warehouse_id)
        REFERENCES warehouses (warehouse_id);

ALTER TABLE inventories
    ADD CONSTRAINT inventories_craft_id_fk
        FOREIGN KEY (craft_id)
        REFERENCES crafts (craft_id);

-- Constraints
ALTER TABLE inventories
    ADD CONSTRAINT inventories_quantity
        CHECK (quantity > 0);

-----

CREATE TABLE crafts_orders (
    craft_id NUMERIC(6,0) NOT NULL,
    order_id NUMERIC(6,0) NOT NULL,
    quantity NUMERIC(10,0) NOT NULL);

-- Primary Key
ALTER TABLE crafts_orders
    ADD CONSTRAINT crafts_orders_craft_id_order_id_pk
        PRIMARY KEY (craft_id, order_id);

-- Foreign Key
ALTER TABLE crafts_orders
    ADD CONSTRAINT crafts_orders_craft_id_fk
        FOREIGN KEY (craft_id)
        REFERENCES crafts (craft_id);

ALTER TABLE crafts_orders
    ADD CONSTRAINT crafts_orders_order_id_fk
        FOREIGN KEY (order_id)
        REFERENCES orders (order_id);

-----

CREATE TABLE crafts_yarns (
    craft_id NUMERIC(6,0) NOT NULL,
    yarn_id NUMERIC(6,0) NOT NULL,
    quantity NUMERIC(6,0));

-- Primary Keys
ALTER TABLE crafts_yarns
    ADD CONSTRAINT crafts_yarns_craft_id_yarn_id_pk
        PRIMARY KEY (craft_id, yarn_id);

-- Foreign Keys
ALTER TABLE crafts_yarns
    ADD CONSTRAINT crafts_yarns_craft_id_fk
        FOREIGN KEY (craft_id)
        REFERENCES crafts (craft_id);

```



```

ALTER TABLE crafts_yarns
    ADD CONSTRAINT crafts_yarns_yarn_id_fk
    FOREIGN KEY (yarn_id)
    REFERENCES yarns (yarn_id);

-- Constraints
ALTER TABLE crafts_yarns
    ADD CONSTRAINT crafts_yarns_quantity
    CHECK (quantity > 0);
-----

CREATE TABLE warehouses_stores (
    warehouse_id NUMERIC(6,0) NOT NULL,
    store_id NUMERIC(6,0) NOT NULL);

-- Primary Keys
ALTER TABLE warehouses_stores
    ADD CONSTRAINT warehouses_stores_warehouse_id_store_id_pk
    PRIMARY KEY (warehouse_id, store_id);

-- Foreign Keys
ALTER TABLE warehouses_stores
    ADD CONSTRAINT warehouses_stores_warehouse_id_fk
    FOREIGN KEY (warehouse_id)
    REFERENCES warehouses (warehouse_id);

ALTER TABLE warehouses_stores
    ADD CONSTRAINT warehouses_stores_store_id_fk
    FOREIGN KEY (store_id)
    REFERENCES stores (store_id);
-----

CREATE TABLE yarns_suppliers (
    yarn_id NUMERIC(6,0) NOT NULL,
    supplier_id NUMERIC(6,0) NOT NULL);

-- Primary Key
ALTER TABLE yarns_suppliers
    ADD CONSTRAINT yarns_suppliers_yarn_id_supplier_id_pk
    PRIMARY KEY (yarn_id, supplier_id);

-- Foreign Key
ALTER TABLE yarns_suppliers
    ADD CONSTRAINT yarns_suppliers_yarn_id_fk
    FOREIGN KEY (yarn_id)
    REFERENCES yarns (yarn_id);

ALTER TABLE yarns_suppliers
    ADD CONSTRAINT yarns_suppliers_supplier_id_fk
    FOREIGN KEY (supplier_id)
    REFERENCES suppliers (supplier_id);

```

FOREIGN KEYS

CUSTOMERS

```
-- FOREIGN Keys
ALTER TABLE customers
  ADD CONSTRAINT customers_favorite_craft_fk
  FOREIGN KEY (favorite_craft)
  REFERENCES crafts (craft_id);

ALTER TABLE customers
  ADD CONSTRAINT customers_zip_code_fk
  FOREIGN KEY (zip_code)
  REFERENCES zips (zip_code);

ALTER TABLE customers
  ADD CONSTRAINT customers_preferred_sales_rep_fk
  FOREIGN KEY (preferred_sales_rep)
  REFERENCES employees (employee_id);
```

DEPARTMENTS

```
-- Foreign Key
ALTER TABLE departments
  ADD CONSTRAINT departments_manager_id_fk
  FOREIGN KEY (manager_id)
  REFERENCES employees (employee_id);
```

EMPLOYEES

```
-- Foreign Key
ALTER TABLE employees
  ADD CONSTRAINT employees_manager_id_fk
  FOREIGN KEY (manager_id)
  REFERENCES employees (employee_id);

ALTER TABLE employees
  ADD CONSTRAINT employees_store_id_fk
  FOREIGN KEY (store_id)
  REFERENCES stores (store_id);

ALTER TABLE employees
  ADD CONSTRAINT employees_department_id_fk
  FOREIGN KEY (department_id)
  REFERENCES departments (department_id);

ALTER TABLE employees
  ADD CONSTRAINT employees_job_id_fk
  FOREIGN KEY (job_id)
  REFERENCES jobs (job_id);
```

ORDERS

```
-- Foreign Key
ALTER TABLE orders
  ADD CONSTRAINT orders_customer_id_fk
```

```
FOREIGN KEY (customer_id)
REFERENCES customers (customer_id);
```

```
ALTER TABLE orders
ADD CONSTRAINT orders_employee_id_fk
FOREIGN KEY (employee_id)
REFERENCES employees (employee_id);
```

STORES

```
-- Foreign Key
ALTER TABLE stores
ADD CONSTRAINT stores_zip_code_fk
FOREIGN KEY (zip_code)
REFERENCES zips (zip_code);

ALTER TABLE stores
ADD CONSTRAINT stores_manager_id_fk
FOREIGN KEY (manager_id)
REFERENCES employees (manager_id);
```

WAREHOUSES

```
-- Foreign Key
ALTER TABLE warehouses
ADD CONSTRAINT warehouses_zip_code_fk
FOREIGN KEY (zip_code)
REFERENCES zips (zip_code);
```

Test Cases

CUSTOMERS Table

customers_customer_id_pk

```
-- ** Valid test **
-- Expected results: Insert statement add a row in the customers table
-- Action:
INSERT INTO customers
VALUES (100000, 'Maria', 'Gutierrez', '2000-08-17', 'maria@gmail.com', 'F', '3183908929',
'Torres de la Javeriana', 'Torres de la Javeriana', NULL, NULL, 'M4H1B6', NULL);
-- Test results: 1 row(s) affected
```



#	Time	Action	Message	Duration / Fetch
1	14:15:50	INSERT INTO customers VALUES (100000, 'Maria', 'Gutierrez', '2000-08-17', 'maria@gmail.com', 'F', '3183908929', 'Torres de la Javeriana', 'Torres de la Javeriana', NULL, NULL, 'M4H1B6', NULL)	1 row(s) affected	0.000 sec

```
-- ** InValid test **
-- Expected results: Insert statement fails to add a row in the customers table
-- Action:
INSERT INTO customers
VALUES (100000, 'John', 'Alexander', '1995-10-17', 'alexander@gmail.com', 'M',
'6478601662', '347 Lawson Road', '347 Lawson Road', NULL, NULL, 'M1C2J8', NULL);
-- Test results: Error Code: 1062. Duplicate entry '100000' for key 'customers.PRIMARY'
```



#	Time	Action	Message	Duration / Fetch
1	14:20:15	INSERT INTO customers VALUES (100000, 'John', 'Alexander', '1995-10-17', 'alexander@gmail.com', 'M', '6478601662', '347 Lawson Road', '347 Lawson Road', NULL, NULL, 'M1C2J8', NULL)	Error Code: 1062. Duplicate entry '100000' for key 'customers.PRIMARY'	0.000 sec

customers_email_uk

```
-- ** Valid test **
-- Expected results: Insert statement add a row in the customers table
-- Action:
INSERT INTO customers
VALUES (100001, 'Paul', 'Smith', '1994-05-25', 'paula@gmail.com', 'F', '3102245116',
'Midland 54675 RD', 'Midland 54675 RD', NULL, NULL, 'M2M3W8', NULL);
-- Test results: 1 row(s) affected
```



#	Time	Action	Message	Duration / Fetch
1	14:21:31	INSERT INTO customers VALUES (100001, 'Paul', 'Smith', '1994-05-25', 'paula@gmail.com', 'F', '3102245116', 'Midland 54675 RD', 'Midland 54675 RD', NULL, NULL, 'M2M3W8', NULL)	1 row(s) affected	0.000 sec

```
-- ** InValid test **
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE customers
```

```

SET email = 'paula@gmail.com'
WHERE customer_id = 100000;
-- Test results: Error Code: 1062. Duplicate entry 'paula@gmail.com' for key
'customers.customers_email_uk'

```

Output			
Action Output			
#	Time	Action	Message
1	14:22:04	UPDATE customers SET email = 'paula@gmail.com' WHERE customer_id = 100000	Error Code: 1062. Duplicate entry 'paula@gmail.com' for key 'customers.customers_email_uk'
			Duration / Fetch 0.000 sec

```

-----
customers_contact_number_uk
-----

```

```

--
-- ** Valid test **
-- Expected results: Update statement modifies a row in the customers table
-- Action:
UPDATE customers
SET contact_number = '3152896959'
WHERE customer_id = 100000;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

```

Output			
Action Output			
#	Time	Action	Message
1	14:29:16	UPDATE customers SET contact_number = '3152896959' WHERE customer_id = 100000	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

```

--
-- ** Invalid test **
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE customers
SET contact_number = '3152896959'
WHERE customer_id = 100001;
-- Test results: Error Code: 1062. Duplicate entry '3152896959' for key
'customers.customers_contact_number_uk'

```

Output			
Action Output			
#	Time	Action	Message
1	14:30:33	UPDATE customers SET contact_number = '3152896959' WHERE customer_id = 100001	Error Code: 1062. Duplicate entry '3152896959' for key 'customers.customers_contact_number_uk'
			Duration / Fetch 0.000 sec

```

-----
customers_favorite_craft_fk
-----

```

```

-- IMPORTANT: 000001, 000002, 000003 craft_id exists in crafts table
--
-- ** Valid test **
-- Expected results: Update statement modifies a row in the customers table
-- Action:
UPDATE customers
SET favorite_craft = 100000
WHERE customer_id = 100000;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

```

Output			
Action Output			
#	Time	Action	Message
1	14:33:21	UPDATE customers SET favorite_craft = 100000 WHERE customer_id = 100000	0 row(s) affected Rows matched: 1 Changed: 0 Warnings: 0
			Duration / Fetch 0.000 sec

```

-----
** InValid test **
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE customers
SET favorite_craft = 000004
WHERE customer_id = 100000;
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`customers`, CONSTRAINT `customers_favorite_craft_fk`
FOREIGN KEY (`favorite_craft`) REFERENCES `crafts` (`craft_id`))

```

Output			
Action Output			
#	Time	Action	Message
1	14:34:08	UPDATE customers SET favorite_craft = 000004 WHERE customer_id = 100000	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`customers`, CONSTRAINT `customers_favorite_craft_fk` FOREIGN KEY (`favorite_craft`) R...
			Duration / Fetch 0.000 sec

```

-----
customers_zip_code_fk
-----
-- IMPORTANT: M1C2J8, M4H1B6, M2M3W8 zip_code exists in zips table
-- ** Valid test **
-- Expected results: Update statement modifies a row in the customers table
-- Action:
UPDATE customers
SET zip_code = 'M1C2J8'
WHERE customer_id = 100000;
-- Test results: 1 row Inserted

```

Output			
Action Output			
#	Time	Action	Message
1	14:36:03	UPDATE customers SET zip_code = 'M1C2J8' WHERE customer_id = 100000	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

```

-----
** InValid test **
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE customers
SET zip_code = 'M4T9K3'
WHERE customer_id = 100000;
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`customers`, CONSTRAINT `customers_zip_code_fk`
FOREIGN KEY (`zip_code`) REFERENCES `zips` (`zip_code`))

```

Output			
Action Output			
#	Time	Action	Message
1	14:38:32	UPDATE customers SET zip_code = 'M4T9K3' WHERE customer_id = 100000	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`customers`, CONSTRAINT `customers_zip_code_fk` FOREIGN KEY (`zip_code`) REFEREN...
			Duration / Fetch 0.000 sec

customers_preferred_sales_rep_fk

```
--
-- IMPORTANT: 100001, 100002, 100003 employee_id exists in employees table
-- ** Valid test **
-- Expected results: Update statement modifies a row in the customers table
-- Action:
UPDATE customers
SET preferred_sales_rep = 100001
WHERE customer_id = 100000;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
```

Output			
Action Output			
#	Time	Action	Message
1	14:42:51	UPDATE customers SET preferred_sales_rep = 100001 WHERE customer_id = 100000	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

** InValid test **

```
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE customers
SET preferred_sales_rep = 100004
WHERE customer_id = 100000;
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`customers`, CONSTRAINT
`customers_preferred_sales_rep_fk` FOREIGN KEY (`preferred_sales_rep`) REFERENCES
`employees` (`employee_id`))
```

Output			
Action Output			
#	Time	Action	Message
1	14:43:34	UPDATE customers SET preferred_sales_rep = 100004 WHERE customer_id = 100000	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`customers`, CONSTRAINT `customers_preferred_sales_rep_fk` FOREIGN KEY (pref...

customers_email

```
--
-- ** Valid test **
-- Expected results: Insert statement add a row in the customers table
-- Action:
INSERT INTO customers
VALUES (100002, 'John', 'Alexander', '1995-10-17', 'alexander@gmail.com', 'M',
'6478601662', '347 Lawson Road', '347 Lawson Road', NULL, NULL, 'M1C2J8', NULL);
-- Test results: 1 row(s) affected
```

Output			
Action Output			
#	Time	Action	Message
1	14:44:50	INSERT INTO customers VALUES (100002, 'John', 'Alexander', '1995-10-17', 'alexander@gmail.com', 'M', '6478601662', '347 Lawson Road', '347 Lawson Road', NULL, NULL, 'M1C2J8', NULL)	1 row(s) affected

** InValid test **

```
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE customers
SET email = 'alexander@gmailcom'
WHERE customer_id = 100002;
-- Test results: Error Code: 3819. Check constraint 'customers_email' is violated.
```

Output			
Action Output			
#	Time	Action	Message
1	14:46:06	UPDATE customers SET email = 'alexander@gmail.com' WHERE customer_id = 100002	Error Code: 3819. Check constraint 'customers_email' is violated.
			Duration / Fetch 0.000 sec

customers_gender

```
--
--                                     ** Valid test **
-- Expected results: Insert statement add a row in the customers table
-- Action:
INSERT INTO customers
VALUES (100003, 'Tatiana', 'Marquez', '1997-09-16', 'tatiana@gmail.com', 'F',
'6474536789', '347 Lawson Road', '347 Lawson Road', NULL, NULL, 'M1C2J8', NULL);
-- Test results: 1 row(s) affected
```

Output			
Action Output			
#	Time	Action	Message
1	14:46:52	INSERT INTO customers VALUES (100003, 'Tatiana', 'Marquez', '1997-09-16', 'tatiana@gmail.com', 'F', '6474536789', '347 Lawson Road', '347 Lawson Road', NULL, NULL, 'M1C2J8', NULL)	1 row(s) affected
			Duration / Fetch 0.015 sec

```
--
--                                     ** InValid test **
-- Expected results: Update statement fails to modify a row in the customers table
-- Action:
UPDATE crafts
SET gender = 'B'
WHERE customer_id = 100003;
-- Test results: Error Code: 1054. Unknown column 'customer_id' in 'where clause'
```

Output			
Action Output			
#	Time	Action	Message
1	14:47:31	UPDATE crafts SET gender = 'B' WHERE customer_id = 100003	Error Code: 1054. Unknown column 'customer_id' in 'where clause'
			Duration / Fetch 0.000 sec

EMPLOYEES Table

employees_employee_id_pk

** Valid test **

-- Expected results: Insert statement add a row in the employees table

-- Action:

INSERT INTO employees

VALUES (100002, 'Bryan', 'Bonilla', '1996-02-08', '1245 Kingston Rd', '6475368908',
'b.bonilla@gmail.com', '2023-04-19', 150000, 'Active', NULL, NULL, NULL, NULL);

-- Test results: 1 row(s) affected

Output			
Action Output			
#	Time	Action	Message
1	13:07:18	INSERT INTO employees VALUES (100002, 'Bryan', 'Bonilla', '1996-02-08', '1245 Kingston Rd', '6475368908', 'b.bonilla@gmail.com', '2023-04-19', 150000, 'Active', NULL, NULL, NULL, NULL)	1 row(s) affected
			Duration / Fetch: 0.015 sec

** InValid test **

-- Expected results: Insert statement fails to add a row in the employees table

-- Action:

INSERT INTO employees

VALUES (100002, 'Rocio', 'Alarcon', '1971-02-28', '19 Urbe Village', '3165090921',
'r.alarcon@gmail.com', '2021-08-06', 190000, 'Active', NULL, NULL, NULL, NULL);

-- Test results: Error Code: 1062. Duplicate entry '100002' for key 'employees.PRIMARY'

Output			
Action Output			
#	Time	Action	Message
1	13:08:18	INSERT INTO employees VALUES (100002, 'Rocio', 'Alarcon', '1971-02-28', '19 Urbe Village', '3165090921', 'r.alarcon@gmail.com', '2021-08-06', 190000, 'Active', NULL, NULL, NULL, NULL)	Error Code: 1062. Duplicate entry '100002' for key 'employees.PRIMARY'
			Duration / Fetch: 0.000 sec

employees_contact_number_uk

** Valid test **

-- Expected results: Update statement modifies a row in the employees table

-- Action:

INSERT INTO employees

VALUES (100003, 'Rocio', 'Alarcon', '1971-02-28', '19 Urbe Village', '3165090921',
'r.alarcon@gmail.com', '2021-08-06', 190000, 'Active', NULL, NULL, NULL, NULL);

-- Test results: 1 row(s) affected

Output			
Action Output			
#	Time	Action	Message
1	13:09:29	INSERT INTO employees VALUES (100003, 'Rocio', 'Alarcon', '1971-02-28', '19 Urbe Village', '3165090921', 'r.alarcon@gmail.com', '2021-08-06', 190000, 'Active', NULL, NULL, NULL, NULL)	1 row(s) affected
			Duration / Fetch: 0.000 sec

** InValid test **

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET contact_number = '3165090921'

WHERE employee_id = 100002;

-- Test results: Error Code: 1062. Duplicate entry '3165090921' for key
'employees.employees_contact_number_uk'

Output			
Action Output			
#	Time	Action	Message
1	13:10:12	UPDATE employees SET contact_number = '3165090921' WHERE employee_id = 100002	Error Code: 1062. Duplicate entry '3165090921' for key 'employees.employees_contact_number_uk'
			Duration / Fetch 0.000 sec

employees_email_uk

** Valid test **

-- Expected results: Insert statement add a row in the employees table

-- Action:

UPDATE employees

SET email = 'bryan@gmail.com'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:11:09	UPDATE employees SET email = 'bryan@gmail.com' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

** InValid test **

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET email = 'bryan@gmail.com'

WHERE employee_id = 100003;

-- Test results: Error Code: 1062. Duplicate entry 'bryan@gmail.com' for key 'employees.employees_email_uk'

Output			
Action Output			
#	Time	Action	Message
1	13:11:44	UPDATE employees SET email = 'bryan@gmail.com' WHERE employee_id = 100003	Error Code: 1062. Duplicate entry 'bryan@gmail.com' for key 'employees.employees_email_uk'
			Duration / Fetch 0.000 sec

employees_manager_id_fk

** Valid test **

-- Expected results: Insert statement add a row in the employees table

-- Action:

INSERT INTO employees

VALUES (100004, 'Bailey', 'Brown', '2001-09-03', '78 Snowboard Street', '8609875467', 'b.brown@gmail.com', '2017-03-18', 100000, 'Active', 100002, NULL, NULL, NULL);

-- Test results: 1 row(s) affected

Output			
Action Output			
#	Time	Action	Message
1	13:13:22	INSERT INTO employees VALUES (100004, 'Bailey', 'Brown', '2001-09-03', '78 Snowboard Street', '8609875467', 'b.brown@gmail.com', '2017-03-18', 100000, 'Active', 100002, NULL, NULL, NULL)	1 row(s) affected
			Duration / Fetch 0.000 sec

```

-----
** InValid test **
-- Expected results: Update statement fails to modify a row in the employees table
-- Action:
UPDATE employees
SET manager_id = 100005
WHERE employee_id = 100002;
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_manager_id_fk`
FOREIGN KEY (`manager_id`) REFERENCES `employees` (`employee_id`))

```

Output			
Action Output			
#	Time	Action	Message
1	13:14:10	UPDATE employees SET manager_id = 100005 WHERE employee_id = 100002	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_manager_id_fk` FOREIGN KEY (`manager_id`) RE...
			Duration / Fetch 0.000 sec

```

-----
employees_store_id_fk
-----
-- IMPORTANT: 123456, 123457, 123458 store_id exist in the stores table.
-- ** Valid test **
-- Expected results: Update statement modifies a row in the employees table
-- Action:
UPDATE employees
SET store_id = 123456
WHERE employee_id = 100002;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

```

Output			
Action Output			
#	Time	Action	Message
1	13:19:09	UPDATE employees SET store_id = 123456 WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

```

-----
** InValid test **
-- Expected results: Update statement fails to modify a row in the employees table
-- Action:
UPDATE employees
SET store_id = 101010
WHERE employee_id = 100002;
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_store_id_fk`
FOREIGN KEY (`store_id`) REFERENCES `stores` (`store_id`))

```

Output			
Action Output			
#	Time	Action	Message
1	13:19:47	UPDATE employees SET store_id = 101010 WHERE employee_id = 100002	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_store_id_fk` FOREIGN KEY (`store_id`) REFERENCE...
			Duration / Fetch 0.000 sec

```

-----
employees_department_id_fk
-----
-- IMPORTANT: 000111, 000222, 000333 department_id exist in the departments table.
-- ** Valid test **
-- Expected results: Update statement modifies a row in the employees table
-- Action:
UPDATE employees
SET department_id = 000333
WHERE employee_id = 100002;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
1	13.23.16	UPDATE employees SET department_id = 000333 WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.015 sec

```

-----
** InValid test **
-- Expected results: Update statement fails to modify a row in the employees table
-- Action:
UPDATE employees
SET department_id = 999999
WHERE employee_id = 100002;
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_department_id_fk`
FOREIGN KEY (`department_id`) REFERENCES `departments` (`department_id`))

```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
1	13.23.57	UPDATE employees SET department_id = 999999 WHERE employee_id = 100002	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_department_id_fk` FOREIGN KEY (`department_id`) REFERENCES `departments` (`department_id`))	0.000 sec

```

-----
employees_job_id_fk
-----
-- IMPORTANT: 111000, 222000, 333000 job_id exist in the jobs table.
-- ** Valid test **
-- Expected results: Update statement modifies a row in the employees table
-- Action:
UPDATE employees
SET job_id = 333000
WHERE employee_id = 100002;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
1	13.25.51	UPDATE employees SET job_id = 333000 WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.000 sec

```

-----
** InValid test **
-- Expected results: Update statement fails to modify a row in the employees table
-- Action:
UPDATE employees
SET job_id = 567467
WHERE employee_id = 100002;

```

```
-- Test results: Error Code: 1452. Cannot add or update a child row: a foreign key
constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_job_id_fk` FOREIGN
KEY (`job_id`) REFERENCES `jobs` (`job_id`))
```

Output			
Action Output			
#	Time	Action	Message
1	13:26:26	UPDATE employees SET job_id = 567467 WHERE employee_id = 100002	Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`one_less_craft`.`employees`, CONSTRAINT `employees_job_id_fk` FOREIGN KEY (`job_id`) REFERENCES `jobs` (`job_id`))

employees_salary_range

**** Valid test #1 ****

```
-- Expected results: Update statement modifies a row in the employees table
-- Action:
UPDATE employees
SET salary = 20000
WHERE employee_id = 100002;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
```

Output			
Action Output			
#	Time	Action	Message
1	13:27:13	UPDATE employees SET salary = 20000 WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

**** Valid test #2 ****

```
-- Expected results: Update statement modifies a row in the employees table
-- Action:
UPDATE employees
SET salary = 200000
WHERE employee_id = 100002;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
```

Output			
Action Output			
#	Time	Action	Message
1	13:28:02	UPDATE employees SET salary = 200000 WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

**** Valid test #3 ****

```
-- Expected results: Update statement modifies a row in the employees table
-- Action:
UPDATE employees
SET salary = 85000
WHERE employee_id = 100002;
-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
```

Output			
Action Output			
#	Time	Action	Message
1	13:28:36	UPDATE employees SET salary = 85000 WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

**** InValid test #1 ****

```
-- Expected results: Update statement fails to modify a row in the employees table
-- Action:
UPDATE employees
SET salary = 19999
WHERE employee_id = 100002;
```

-- Test results: Error Code: 3819. Check constraint 'employees_salary_range' is violated.

Output			
Action Output			
#	Time	Action	Message
1	13:29:11	UPDATE employees SET salary = 19999 WHERE employee_id = 100002	Error Code: 3819. Check constraint 'employees_salary_range' is violated.
			Duration / Fetch 0.000 sec

**** InValid test #2 ****

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET salary = 200001

WHERE employee_id = 100002;

-- Test results: Error Code: 3819. Check constraint 'employees_salary_range' is violated.

Output			
Action Output			
#	Time	Action	Message
1	13:29:48	UPDATE employees SET salary = 200001 WHERE employee_id = 100002	Error Code: 3819. Check constraint 'employees_salary_range' is violated.
			Duration / Fetch 0.000 sec

employees_emp_status

**** Valid test #1 ****

-- Expected results: Update statement modifies a row in the employees table

-- Action:

UPDATE employees

SET emp_status = 'On vacation'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:33:32	UPDATE employees SET emp_status = 'On vacation' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.016 sec

**** Valid test #2 ****

-- Expected results: Update statement modifies a row in the employees table

-- Action:

UPDATE employees

SET emp_status = 'Retired'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:34:11	UPDATE employees SET emp_status = 'Retired' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

**** Valid test #3 ****

-- Expected results: Update statement modifies a row in the employees table

-- Action:

UPDATE employees

SET emp_status = 'Inactive'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:34:57	UPDATE employees SET emp_status = 'Inactive' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

**** Valid test #4 ****

-- Expected results: Update statement modifies a row in the employees table

-- Action:

UPDATE employees

SET emp_status = 'Active'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:35:28	UPDATE employees SET emp_status = 'Active' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

**** InValid test ****

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET emp_status = 'Time Off'

WHERE employee_id = 100002;

-- Test results:

Output			
Action Output			
#	Time	Action	Message
1	13:36:02	UPDATE employees SET emp_status = 'Time Off' WHERE employee_id = 100002	Error Code: 3819. Check constraint 'employees_emp_status' is violated.
			Duration / Fetch 0.000 sec

employees_hire_date_gt_date_of_birth

**** Valid test ****

-- Expected results: Update statement modifies a row in the employees table

-- Action:

UPDATE employees

SET hire_date = '2022-06-11' -- DOB = '1996-02-08'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:37:56	UPDATE employees SET hire_date = '2022-06-11' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

**** InValid test ****

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET hire_date = '1995-10-25'

WHERE employee_id = 100002;

-- Test results: Error Code: 3819. Check constraint
'employees_hire_date_gt_date_of_birth' is violated.

Output			
Action Output			
#	Time	Action	Message
1	13:40:00	UPDATE employees SET hire_date = '1995-10-25' WHERE employee_id = 100002	Error Code: 3819. Check constraint 'employees_hire_date_of_birth' is violated.
			Duration / Fetch 0.000 sec

employees_email

**** Valid test ****

-- Expected results: Update statement modifies a row in the employees table

-- Action:

UPDATE employees

SET email = 'bryan.bonilla@outlook.com'

WHERE employee_id = 100002;

-- Test results: 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

Output			
Action Output			
#	Time	Action	Message
1	13:43:05	UPDATE employees SET email = 'bryan.bonilla@outlook.com' WHERE employee_id = 100002	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
			Duration / Fetch 0.000 sec

**** InValid test #1 ****

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET email = 'bryan.bonillaoutlook.com'

WHERE employee_id = 100002;

-- Test results: Error Code: 3819. Check constraint 'employees_email' is violated.

Output			
Action Output			
#	Time	Action	Message
1	13:43:42	UPDATE employees SET email = 'bryan.bonillaoutlook.com' WHERE employee_id = 100002	Error Code: 3819. Check constraint 'employees_email' is violated.
			Duration / Fetch 0.000 sec

**** InValid test #2 ****

-- Expected results: Update statement fails to modify a row in the employees table

-- Action:

UPDATE employees

SET email = 'bryan.bonilla@outlookcom'

WHERE employee_id = 100002;

-- Test results: Error Code: 3819. Check constraint 'employees_email' is violated.

Output			
Action Output			
#	Time	Action	Message
1	13:44:24	UPDATE employees SET email = 'bryan.bonilla@outlookcom' WHERE employee_id = 100002	Error Code: 3819. Check constraint 'employees_email' is violated.
			Duration / Fetch 0.000 sec