

Database hw8

1. 创建 price_log 表和触发器:

```
# 创建price log表
CREATE TABLE price_log (
    id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
    product_id INT UNSIGNED NOT NULL,
    price DECIMAL(10,2) NOT NULL,
    update_time TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

# 创建product表
CREATE TABLE product (
    id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(255),
    price DECIMAL(10,2)
);

# 创建 TRIGGER
DELIMITER $$

CREATE TRIGGER before_price_update
BEFORE UPDATE ON product
FOR EACH ROW
BEGIN
    INSERT INTO price_log (product_id, price, update_time)
    VALUES (OLD.id, OLD.price, CURRENT_TIMESTAMP);
END$$

DELIMITER ;
```

```
mysql> DELIMITER $$
mysql>
mysql> CREATE TRIGGER before_price_update
-> BEFORE UPDATE ON product
-> FOR EACH ROW
-> BEGIN
->     INSERT INTO price_log (product_id, price, update_time)
->     VALUES (OLD.id, OLD.price, CURRENT_TIMESTAMP);
-> END$$
```

Query OK, 0 rows affected (0.01 sec)

```
mysql>
[mysql> DELIMITER ;
mysql> █
```

2. 创建 student_bf 表和删除触发器:

```
CREATE TABLE Student (
    id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
```

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    name VARCHAR(255),
    age INT
);

CREATE TABLE student_bf (
    id INT NOT NULL,
    name VARCHAR(255),
    age INT,
    PRIMARY KEY (id)
);

DELIMITER $$
CREATE TRIGGER before_student_delete
BEFORE DELETE ON Student
FOR EACH ROW
BEGIN
    INSERT INTO student_bf (id, name, age)
    VALUES (OLD.id, OLD.name, OLD.age);
END$$
DELIMITER ;

```

```

mysql> DELIMITER $$
mysql> CREATE TRIGGER before_student_delete
-> BEFORE DELETE ON Student
-> FOR EACH ROW
-> BEGIN
->     INSERT INTO student_bf (id, name, age)
->     VALUES (OLD.id, OLD.name, OLD.age);
-> END$$

```

Query OK, 0 rows affected (0.00 sec)

3. 创建 SC 表限制成绩的触发器:

```

CREATE TABLE SC (
    student_id INT NOT NULL,
    course_id INT NOT NULL,
    score INT CHECK (score BETWEEN 0 AND 100),
    PRIMARY KEY (student_id, course_id)
);

DELIMITER $$
CREATE TRIGGER before_sc_insert
BEFORE INSERT ON SC
FOR EACH ROW
BEGIN
    IF NEW.score < 0 OR NEW.score > 100 THEN
        SET NEW.score = 0;
    END IF;
END$$

```

```
DELIMITER ;
```

```
mysql> DELIMITER $$  
mysql> CREATE TRIGGER before_sc_insert  
-> BEFORE INSERT ON SC  
-> FOR EACH ROW  
-> BEGIN  
->     IF NEW.score < 0 OR NEW.score > 100 THEN  
->         SET NEW.score = 0;  
->     END IF;  
-> END$$
```

```
Query OK, 0 rows affected (0.00 sec)
```

```
[mysql> DELIMITER ;
```