

# assignment\_temporal.pdf

---

## Task 1

```
CREATE TABLE Service (  
    id INT(20) NOT NULL,  
    name VARCHAR(50) NOT NULL,  
    price_per_day DECIMAL(20, 2) NOT NULL,  
    PRIMARY KEY (id)  
) WITH SYSTEM VERSIONING;  
  
CREATE TABLE Customer (  
    id INT(20) NOT NULL AUTO_INCREMENT,  
    fistname VARCHAR(50) NOT NULL,  
    lastname VARCHAR(50) NOT NULL,  
    subscription_startdate DATE NOT NULL,  
    subscription_enddate DATE NOT NULL,  
    service_id INT(20) NOT NULL,  
    PERIOD FOR valid_time (subscription_startdate, subscription_enddate),  
    PRIMARY KEY (id),  
    FOREIGN KEY (service_id) REFERENCES Service(id)  
) WITH SYSTEM VERSIONING;
```

## Task 2

```
/* Inserting data into the Service table */  
INSERT INTO Service (id, name, price_per_day) VALUES (1, 'Gold', 0.95);  
INSERT INTO Service (id, name, price_per_day) VALUES (2, 'Silver', 0.45);  
INSERT INTO Service (id, name, price_per_day) VALUES (3, 'Bronze', 0.00);  
  
/* Inserting data into the Customer table */  
INSERT INTO Customer (firstname, lastname, subscription_startdate,  
subscription_enddate, service_id)  
VALUES ('Mary', 'Smith', '2023-9-1', '2023-9-9', 2)  
  
INSERT INTO Customer (firstname, lastname, subscription_startdate,  
subscription_enddate, service_id)  
VALUES ('Ville', 'Puro', '2023-9-10', '9999-9-10', 3)
```

## Task 3

```
UPDATE Customer  
FOR PORTION OF valid_time FROM '2023-10-3' TO '2023-10-8'
```

```
SET service_id = 1
WHERE id = 3;
```

```
mysql> UPDATE Customer
-> FOR PORTION OF valid_time FROM '2023-10-3' TO '2023-10-8'
-> SET service_id = 1
-> WHERE id = 3;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Inserted: 1  Warnings: 0
```

Task 4

```
UPDATE Customer
SET lastname = 'Virtanen'
WHERE id = 3;

UPDATE Service
SET price_per_day = 0.10
WHERE id = 3;

SELECT * FROM customer
FOR SYSTEM_TIME ALL
WHERE id = 2;

SELECT * FROM service
FOR SYSTEM_TIME ALL;
```

```
mysql> SELECT * FROM customer
-> FOR SYSTEM_TIME ALL
-> WHERE id = 2;
+-----+-----+-----+-----+-----+-----+
| id | firstname | lastname | subscription_startdate | subscription_enddate | service_id |
+-----+-----+-----+-----+-----+-----+
| 2 | Ville | Puro | 2023-09-10 | 9999-09-10 | 3 |
| 2 | Ville | Puro | 2023-10-03 | 2023-10-08 | 1 |
| 2 | Ville | Virtanen | 2023-10-03 | 2023-10-08 | 1 |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
mysql> SELECT * FROM service
-> FOR SYSTEM_TIME ALL;
+-----+-----+-----+
| id | name | price_per_day |
+-----+-----+-----+
| 1 | Gold | 0.95 |
| 2 | Silver | 0.45 |
| 3 | Bronze | 0.00 |
| 3 | Bronze | 0.10 |
| 3 | Bronze | 0.10 |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

Task 5

```
SELECT customer.firstname, customer.lastname,  
service.name, Service.price_per_day  
FROM customer  
INNER JOIN Service ON customer.service_id = Service.id  
WHERE TIMESTAMP('2023-9-11') BETWEEN subscription_startdate AND  
subscription_enddate;
```

```
+-----+-----+-----+-----+  
| firstname | lastname | name | price_per_day |  
+-----+-----+-----+-----+  
| Ville | Puro | Bronze | 0.10 |  
+-----+-----+-----+-----+  
1 row in set (0.00 sec)
```