Find gaps or duplicates in number sequences in MySql

Find all gaps

```sql
SELECT l.id + 1 AS START
    FROM SEQUENCE AS l
    LEFT OUTER JOIN SEQUENCE AS r ON l.id + 1 = r.id
    WHERE r.id IS NULL
```

Find first gap

```sql
SELECT MIN(l.id + 1) AS START
    FROM SEQUENCE AS l
    LEFT OUTER JOIN SEQUENCE AS r ON l.id + 1 = r.id
    WHERE r.id IS NULL
```

Find missing range

```sql
SELECT START, stop FROM (
    SELECT m.id + 1 AS START, (SELECT MIN(id) - 1 FROM SEQUENCE AS x
WHERE x.id > m.id) AS stop
        FROM SEQUENCE AS m
        LEFT OUTER JOIN SEQUENCE AS r ON m.id = r.id - 1
        WHERE r.id IS NULL
    ) AS x
    WHERE stop IS NOT NULL;
```

Find duplicates

```sql
SELECT id, COUNT(*) FROM
    SEQUENCE
    GROUP BY id HAVING COUNT(*) > 1;
```