

# Find gaps or duplicates in number sequences in MySQL

## Find all gaps

```
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

```
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

```
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

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

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