

# Aggregating Data

INTRODUCTION TO SQL SERVER



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Instructor

# SUM - single column

Calculate the total amount of a column value with `SUM()`

```
SELECT
    SUM(affected_customers) AS total_affected
FROM grid;
```

```
+-----+
| total_affected |
|-----|
| 70143996      |
+-----+
```

# SUM - two or more columns

```
SELECT
  SUM(affected_customers) AS total_affected
FROM grid;
```

```
SELECT
  SUM (affected_customers) AS total_affected,
  SUM (demand_loss_mw) AS total_loss
FROM grid;
```

```
+-----+-----+
| total_affected | total_loss |
|-----+-----|
| 70143996      | 177888     |
+-----+-----+
```

# The wrong way...

```
SELECT
  SUM (affected_customers) AS total_affected,
  (demand_loss_mw) AS total_loss
FROM grid;
```

```
Msg 8120, Level 16, State 1, Line 6
Column 'grid_demand_loss_mw' is invalid in the select list because
it is not contained in either an aggregate function or the GROUP BY clause.
```

# Use aliases

```
SELECT
  SUM (affected_customers),
  SUM (demand_loss_mw)
FROM grid;
```

```
+-----+-----+
| (No column name) | (No column name) |
|-----+-----|
| 70143996          | 177888            |
+-----+-----+
```

```
SELECT
  SUM (affected_customers) AS total_affected,
  SUM (demand_loss_mw) AS total_loss
FROM grid;
```

```
+-----+-----+
| total_affected | total_loss |
|-----+-----|
| 70143996      | 177888     |
+-----+-----+
```

# COUNT

```
SELECT  
    COUNT(affected_customers) AS count_affected  
FROM grid;
```

```
+-----+  
| count_affected |  
+-----+  
| 807            |  
+-----+
```

# COUNT Distinct

```
SELECT
    COUNT(DISTINCT affected_customers) AS unique_count_affected
FROM grid;
```

```
+-----+
| unique_count_affected |
+-----+
| 280                   |
+-----+
```

# MIN

```
SELECT
    MIN(affected_customers) AS min_affected_customers
FROM grid;
```

```
+-----+
| min_affected_customers |
+-----+
| 0                      |
+-----+
```

```
SELECT
    MIN(affected_customers) AS min_affected_customers
FROM grid
WHERE affected_customers > 0;
```

```
+-----+
| min_affected_customers |
+-----+
| 1                      |
+-----+
```



# MAX

```
SELECT
```

```
    MAX(affected_customers) AS max_affected_customers
```

```
FROM grid;
```

```
+-----+
| max_affected_customers |
|-----|
| 4645572                |
+-----+
```

# Average

```
SELECT
    AVG(affected_customers) AS avg_affected_customers
FROM grid;
```

```
+-----+
| avg_affected_customers |
|-----|
| 86919                  |
+-----+
```