

### Regular Expressions

\d	A digit
[]	Any item in brackets
?	previous character 0 or 1 times
+	Previous character 1 or more times
*	Previous character 0 or more times

### Identifying Missing Data

Missing Completely at Random

SELECT \* FROM restaurant\_inspection WHERE score IS NULL;

SELECT inspection\_type, COUNT(\*) as count FROM restaurant\_inspection WHERE score IS NULL

SELECT COUNT(\*) FROM restaurant\_inspection WHERE score IS NULL;

GROUP BY inspection\_type ORDER BY count D

### Replacing null values with an average

UPDATE TABLE Patient SET Income = (SELECT avg(Income) FROM Patient) WHERE Income IS NULL;

### Dropping Values where a column is null

SELECT count(\*) FROM Patient WHERE Weight IS NULL;

### Dealing with Duplicates

```
WITH DuplicateWithNumber AS
( SELECT Column1, Column2
  , row_number() OVER (
PARTITION BY Column1, Column2
ORDER BY Column3) AS NthApp -
earance
  FROM YourTable Name
)
DELETE FROM Duplicate With -
hNumber
WHERE NthApp ear anc e > 1
```

### Cleaning with Case

```
UPDATE Project..housing
SET SoldAs Vac ant =CASE
WHEN SoldAs Vacant = 'Y' THEN
'Yes'
WHEN SoldAs Vacant = 'N' THEN
'No'
ELSE SoldAs Vacant
END
```

### Replacing missing values with COALESCE()

The function substitutes null values

SELECT name, COALESCE(score, -1), inspection\_type FROM restaurant\_inspection

### SQL Set Operations

EXCEPT/MINUS	INTERSECT	UNION
Return the rows that are found in one relation but not the other.	the rows that are found in both relations	e rows that are found in either relation.

Note that input relations must have the same number of columns and compatible data types for the respective columns.

### Detecting out of range values

```
SELECT * FROM series
WHERE rating NOT BETWEEN 0 AND 10
SELECT * FROM series
WHERE rating < 0 OR rating > 10
```

### Replicate: Repeats string x no of times

```
REPLICATE (string, integer)
REPLIC ATE ('0', 9 - LEN(re -
gis tra tio n_c ode))
```

### Checking if a value is a website

```
select
case
when email LIKE '%.com'
then email
else null
end AS email
from pensio n_funds
```

### Handy Numeric Functions

IS NUMERIC	Returns true if the expression has a numeric value, false if not	
CONVERT	Converts a character string into a number	SELECT CONVERT(int, 25.65);
TRUNCATE	n truncated to d decimal places. If you skip d, then n is truncated to 0 decimal places. If d is a negative number, the function truncates the number n to d digits left to the decimal point.	SELECT TRUNCATE(-123.4567, 2);

### Column values must translate to type to stand

ALTER TABLE	tableName
ALTER COLUMN	columnName
TYPE smallint	USING columnName::-smallint

### String Operations

```
-- SUBSTR
syntax is:
SUBSTR(string, starting
character position, # of
characters):
SELECT incidn t_num,
       date,
       SUB STR (date, 4,
2) AS day
FROM tutorial.sf_crime_
inc ide nts _20 14_01
# Extracting date and time
specific ally from a column
SELECT incidn t_num,
       date,
       LEF T(date, 10) AS
cleane d_date,
       RIG HT( date, 17)
AS cleane d_time
FROM tutorial.sf_crime_
inc ide nts _20 14_01
# TRIM, to remove characters
from the beginning and end of a
string.
SELECT location,
       TRI M(both '() '
FROM location)
FROM tutorial.sf_crime_
inc ide nts _20 14_01
# POSITION allows you to specify
a substring,
then returns a numerical value
equal to the
character number (counting from
left) where that
substring first appears in the
target string.
SELECT incidn t_num,
```

### String Operations (cont)

```
> descript,
POSITION('A' IN descript) AS
a_position
FROM tutorial.sf_crime_incidents_20-
14_01
# COALESCE can replace the null values
SELECT incidnt_num,
       descript,
       COALESCE(descript, 'No Description')
FROM tutorial.sf_crime_incidents_cl-
eandate
ORDER BY descript DESC
```

Left for time

Right for date

Trim to remove chars at beginning and end

Position to return the location of a character!

COALESCE to replace the nulls!



By **datamansam**

[cheatography.com/datamansam/](https://cheatography.com/datamansam/)

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