Relational Data: Takeaways

Syntax

JOINING DATAFRAMES

- Combine two dataframes using an inner join:

```
sat_results %>%
inner_join(class_size, by = "DBN")
```

- Combine two dataframes using a left join:

```
sat_results %>%
left_join(class_size, by = "DBN")
```

- Combine two dataframes using a right join:

```
sat_results %>%
right_join(class_size, by = "DBN")
```

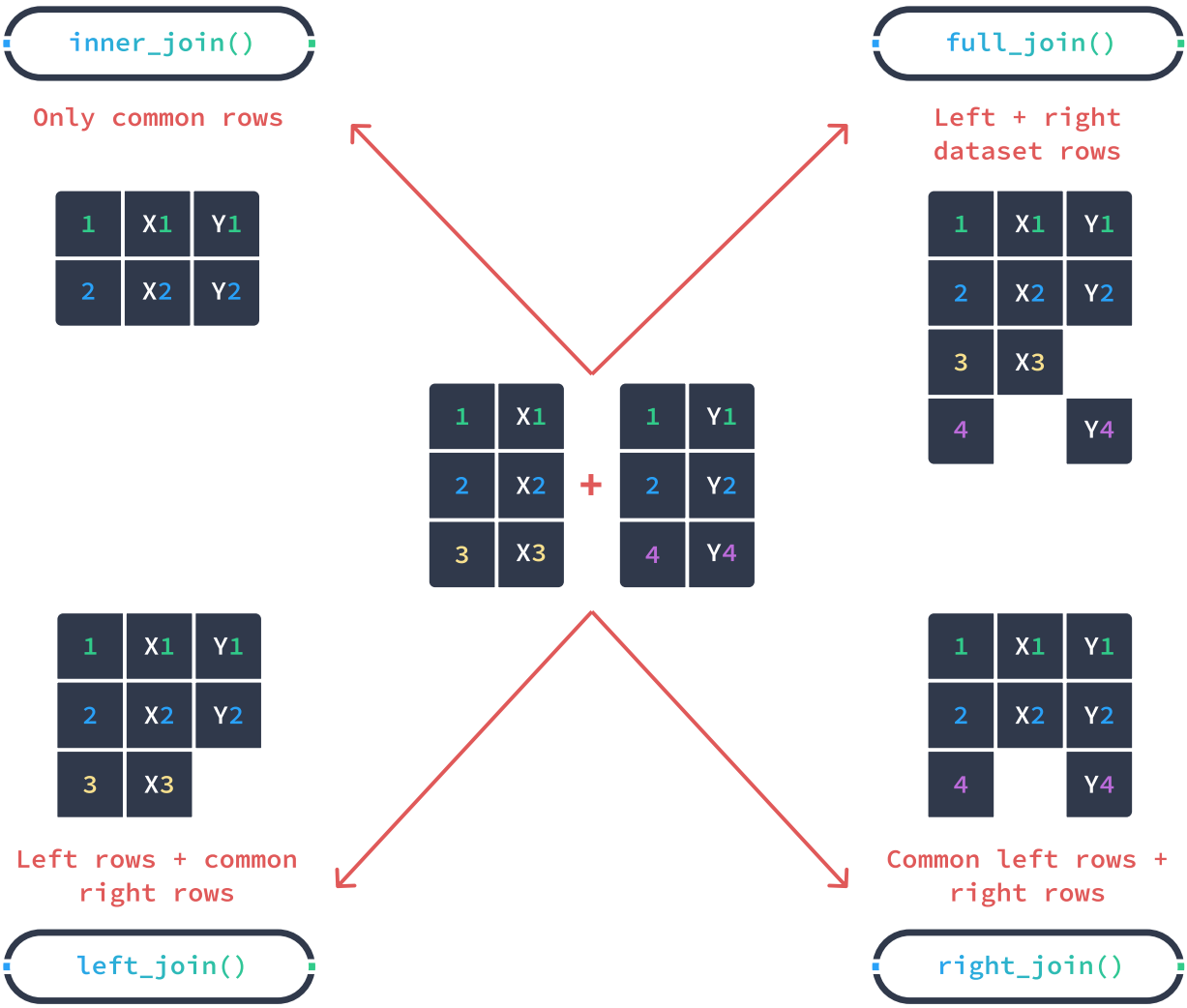
- Combine two dataframes using a full join:

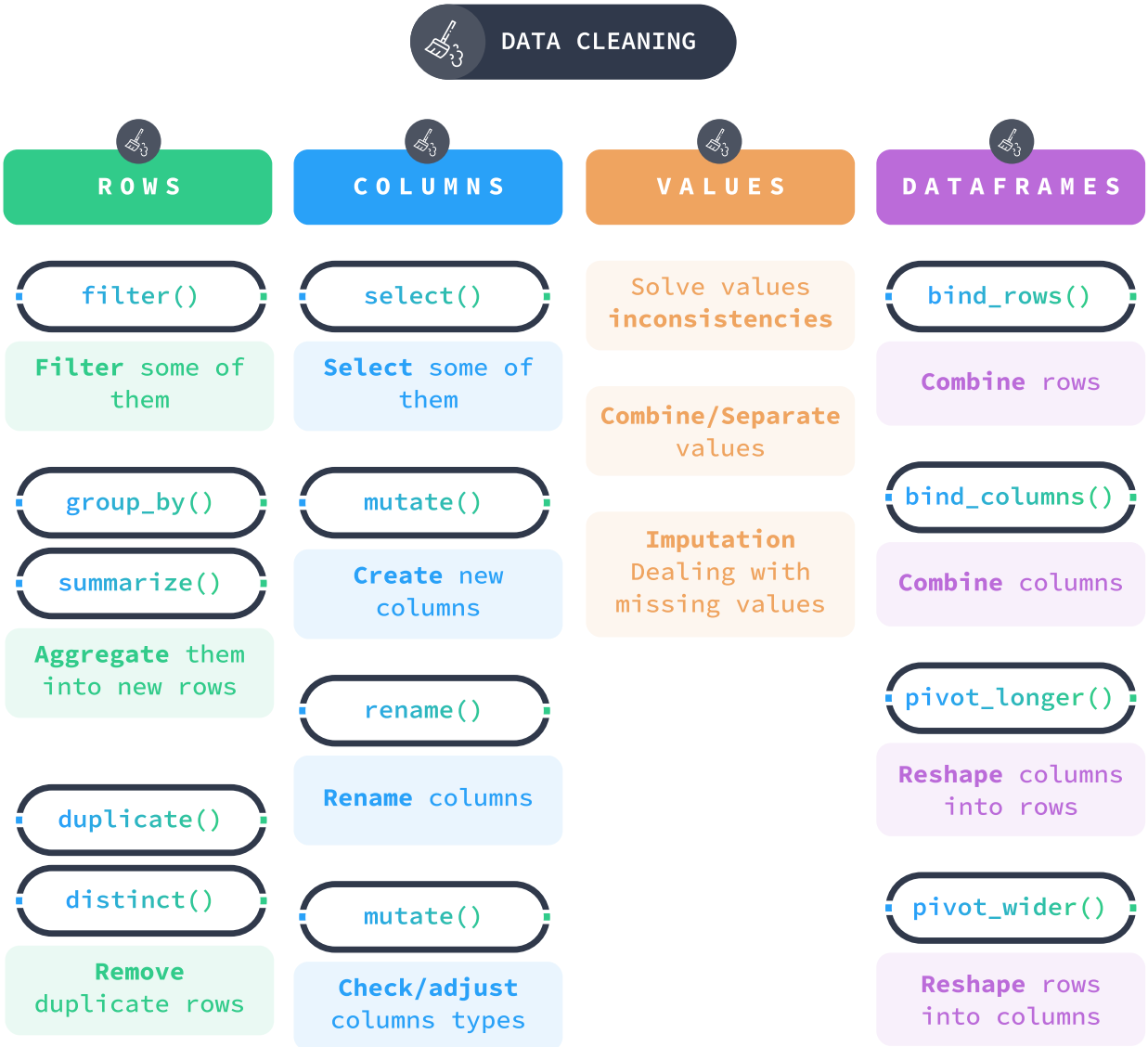
```
sat_results %>%
full_join(class_size, by = "DBN")
```

Concepts

- Relational data is data that has a relation to some data in another table.
- A key refers to the variable that connects pairs of tables.
    - Mutating joins add new variables to a dataframe based on matching observations in another dataframe.
        - Inner joins match pairs of variables in two dataframes if their values of the key are the same.
        - Outer joins keep observations that appear in at least one of the two tables you're combining. Outer joins can be divided into three types:
            - Left joins
            - Right joins
            - Full joins
- Performing a left join keeps all observations in the dataframe on the left and drops observations from the dataframe on the right that have no key match.
- Performing a right join keeps all observations in the dataframe on the right and drops observations from the dataframe on the left that have no key.
- Performing a full join keeps all observations from both dataframes and fills in missing variables with

```
NA
```


inner_join()
Only common rows
1 X1 Y1
2 X2 Y2
full_join()
Left + right dataset rows
1 X1 Y1
2 X2 Y2
3 X3
4 Y4
1 X1
2 X2
3 X3
+
1 Y1
2 Y2
4 Y4
1 X1 Y1
2 X2 Y2
3 X3
Left rows + common right rows
left_join()
1 X1 Y1
2 X2 Y2
4 Y4
Common left rows + right rows
right_join()



Resources

- Cheat sheet for dplyr join functions