

- Standardizing Data
- Data Cleaning

- Checking or Removing Duplicates

```
25 • SELECT *,
26 ROW_NUMBER() OVER(
27 PARTITION BY artist_id,full_middle_last_name,nationality,style,birth,death) AS row_num
28 FROM artist_copy
29 ORDER BY 1 ASC;
```

	artist_id	full_middle_last_name	nationality	style	birth	death
▶	500	Pierre-Auguste Renoir	French	Impressionist	1841	1919
	501	Alexandre Cabanel	French	Classicist	1823	1889
	502	James Ensor	Belgian	Expressionist	1860	1949
	503	Maximilien Luce	French	Pointillist	1858	1941
	504	August Macke	German	Expressionist	1887	1914
	505	Thomas Gainsborough	English	Rococo	1727	1788
	506	Julien DuprÃ©	French	Naturalist	1851	1910
	507	George Catlin	American	American West	1796	1872
	508	Federico Zandomenoghi	Italian	Expressionist	1841	1917
	509	Cornelis Springer	Dutch	Landscape Art	1817	1891
	510	Hans Memling	Dutch	Northern Ren...	1435	1494
	511	Piet Mondrian	Dutch	Modern Art	1872	1944
	512	Lemuel Francis Abbott	English	Portraitist	1760	1803
	513	Mary Cassatt	American	Impressionist	1844	1926
	514	Heinrich Campendonk	German	Expressionist	1889	1957
	515	Thomas Cole	American	Hudson River ...	1801	1848
	516	Thomas Luny	English	Marine Art	1759	1837

```
23
24 -- Checking For Any Dupliates In Artist Table
25 • SELECT *,
26 ROW_NUMBER() OVER(
27 PARTITION BY artist_id,full_middle_last_name,nationality,style,birth,death) AS row_num
28 FROM artist_copy
29 ORDER BY 1 ASC;
```

```
30
31 -- Checking Null Values
32 • SELECT *
33 FROM artist_copy
34 WHERE artist_id IS NULL
35 OR full_middle_last_name IS NULL
36 OR nationality IS NULL
37 OR style IS NULL
```

	artist_id	full_middle_last_name	nationality	style	birth	death	row_num
▶	500	Pierre-Auguste Renoir	French	Impressionist	1841	1919	1
	501	Alexandre Cabanel	French	Classicist	1823	1889	1
	502	James Ensor	Belgian	Expressionist	1860	1949	1
	503	Maximilien Luce	French	Pointillist	1858	1941	1
	504	August Macke	German	Expressionist	1887	1914	1
	505	Thomas Gainsborough	English	Rococo	1727	1788	1
	506	Julien DuprÃ©	French	Naturalist	1851	1910	1