Project: Title: Baby Name Trends in the Social Security in Data Project by Alex

Project Plan

Project Goal

Project Scope

Project Approach

Project Data

Data Source

Data Description

Data Quality

Data Exploration

Data Transformation

Data Modeling

Data Visualization

Project Code

Step 1

```
import numpy as np
import pandas as pd
```

Load Data

```
df = pd.read_csv('/kaggle/input/baby-names-from-the-social-security-administration/baby-names.csv')
df.head()
```

	Unnamed: 0	Year	Name	Gender	Count
0	0	1880	Mary	F	7065
1	1	1880	Anna	F	2604
2	2	1880	Emma	F	2003
3	3	1880	Elizabeth	F	1939
4	4	1880	Minnie	F	1746

```
df.shape
```

```
(1924665, 5)
```

```
df.info()
```

```
<class'pandas.core.frame.DataFrame'>
RangeIndex: 1924665 entries, 0 to 1924664
Data columns (total 5 columns):
 0   Unnamed: 0  int64
 1   Year        int64
 2   Name        object
 3   Gender      object
 4   Count       int64
dtype: int64
memory usage: 73.4 MB
```

Drop Unnecessary Columns

```
df.drop(columns=['Unnamed: 0'], inplace=True)
df.head()
```

	Year	Name	Gender	Count
0	1880	Mary	F	7065
1	1880	Anna	F	2604
2	1880	Emma	F	2003
3	1880	Elizabeth	F	1939
4	1880	Minnie	F	1746

Check Data Quality

```
df.isnull().sum()
```

```
Year      0
Name      0
Gender    0
Count     0
dtype: int64
```

```
df.duplicated().sum()
```

```
0
```

Check Data Consistency

```
df.Gender.unique()
```

```
array['F', 'M']
```

```
df.Year.unique()
```

```
array[1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889,
       1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899,
       1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909,
       1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919,
       1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929,
       1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939,
       1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949,
       1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959,
       1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969,
       1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979,
       1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989,
       1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999,
       2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009,
       2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019,
       2020, 2021]
```

Step 2

Gender Distribution

```
df.Gender.value_counts()
```

```
F    1401309
M     523356
Name: Gender, dtype: int64
```

Top 10 Most Popular Names

```
df.Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Mary     5136
Michael  5136
Linda    5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Female Names

```
df[df.Gender=='F].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names

```
df[df.Gender=='M].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 3

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 4

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 5

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 6

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 7

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 8

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 9

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 10

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Project Exercise (Ex. 1 of 3 steps)

Step 1

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 2

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 3

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 4

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 5

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 6

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 7

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 8

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 9

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 10

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Project Exercise (Ex. 2 of 3 steps)

Step 1

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 2

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 3

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 4

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 5

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 6

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 7

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 8

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 9

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 10

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Project Exercise (Ex. 3 of 3 steps)

Step 1

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 2

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 3

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 4

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 5

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 6

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
James    5136
John     5136
Robert   5136
Michael  5136
William  5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Step 7

Top 10 Most Popular Female Names Over Time

```
df[df.Name.isin(['Mary', 'Linda', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie', 'Jessie'])].Name.value_counts()
```

```
Mary     5136
Linda    5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Jessie   5136
Name: Name, dtype: int64
```

Top 10 Most Popular Male Names Over Time

```
df[df.Name.isin(['James', 'John', 'Robert', 'Michael', 'William', 'Jessie', 'Jessie', 'Jessie', 'J
```