Task 1:

The system displays the interface for inputting parameters.

When user input is not correct:

If input is correct (1880, 10):

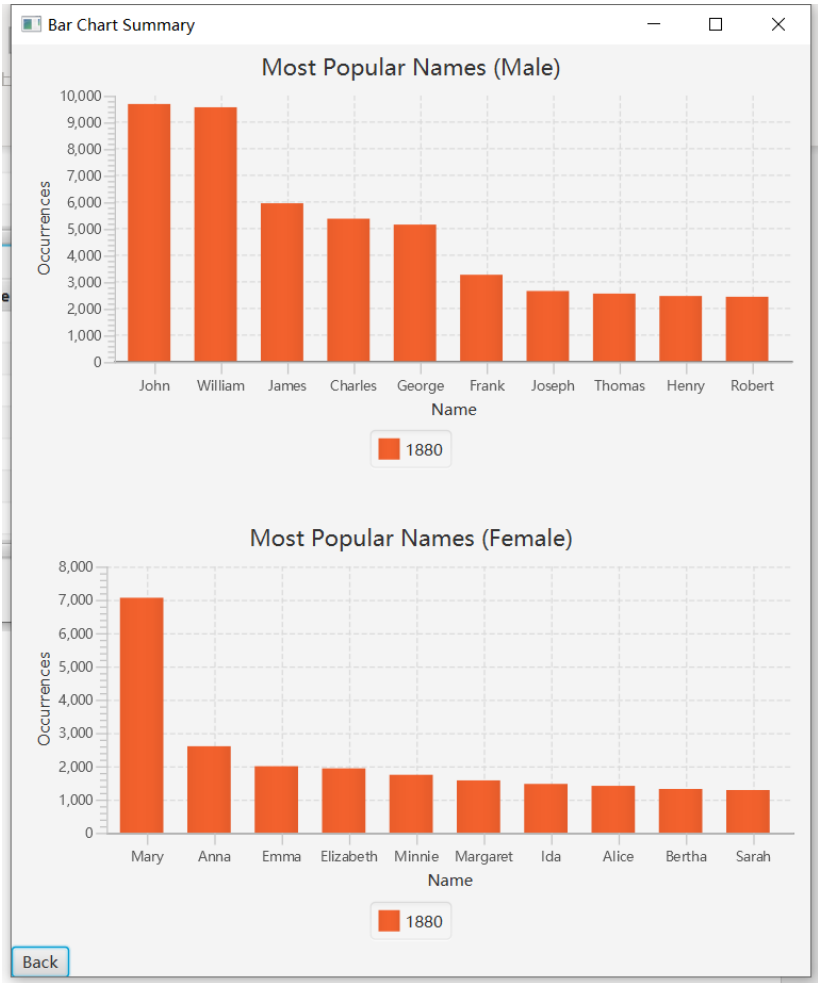Click on "View Table":

Table Summary

Top 10 Names (male) in 1880

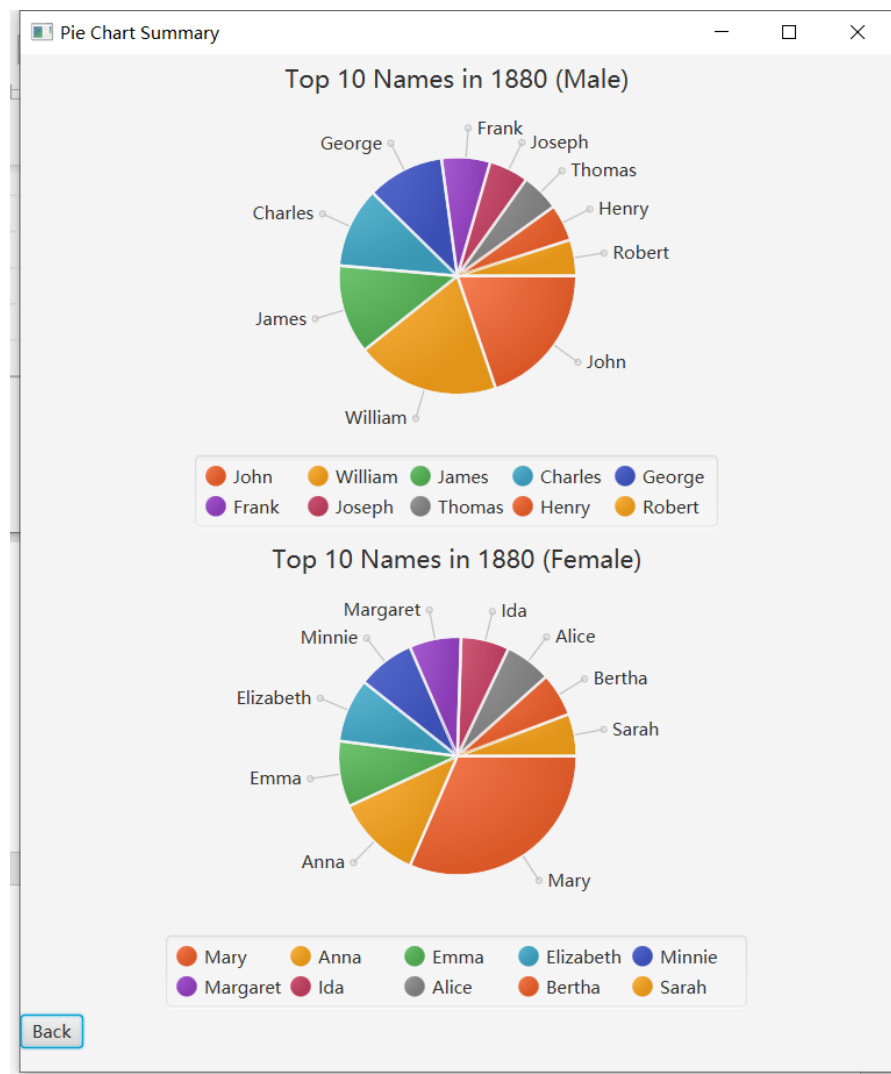| Name	Occurrences	Percentage
John	9655	0.087%
William	9532	0.086%
James	5927	0.054%
Charles	5348	0.048%
George	5126	0.046%
Frank	3242	0.029%
Joseph	2632	0.024%
Thomas	2534	0.023%

Top 10 Names (female) in 1880

Name	Occurrences	Percentage
Mary	7065	0.078%
Anna	2604	0.029%
Emma	2003	0.022%
Elizabeth	1939	0.021%
Minnie	1746	0.019%
Margaret	1578	0.017%
Ida	1472	0.016%

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Back and click on "View Bar Chart":

Back and click on "View Pie Chart":

Click "Back" twice to go back to the main UI.

Task 4:

Algorithm 1:

The system displays the interface for inputting parameters.

Two cases if the user input is incorrect:

Click "generate" and results are shown for both boy and girl.

Algorithm 2:

The system displays the interface for inputting parameters.

Apart from the two validity checks same as above, we add a third test: the name fields should be pure letters.

Click on "generate", the results for boy and girl are displayed.

Name Recommendation — □ ✕

Boy | Girl

The recommended boy's name: Lyman

Lyman is the most appropriate name found by the algorithm with the number of occurrences of 31, which represents 0.000% of total male births in dad's year of birth, 1880.
The sum of all characters in the dad's name Solar is 513.
The sum of all characters in name Lyman is 513, which is the closest to that of the dad's name with difference 0.

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Name Recommendation — □ ✕

Boy | Girl

The recommended girl's name: Nora

Nora is the most appropriate name found by the algorithm with the number of occurrences of 471, which represents 0.005% of total female births in mom's year of birth, 1880.
The sum of all characters in the mom's name Luna is 400.
The sum of all characters in name Nora is 400, which is the closest to that of the mom's name with difference 0.

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