PRIME FACTORIAL GENERATOR

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INTRODUCTION

The Prime Factorial Generator takes a positive number as input and generates its Prime Factors.

Assumption: Prime Factors not possible for negative numbers. Refer to answer one of https://primes.utm.edu/notes/faq/negative_primes.html.

SPECIFICATIONS

When a page loads, the following information should be provided:

- A Clock displaying the current time in 24 hr format
- A timer spinner that cycles every 125ms
- An Input field
- A GENERATE button which when clicked generates all the prime factors for the given input.
- A Results Area
- A CLEAR Button but is hidden until Results area is populated with Factors
- A RESET Button but is hidden until the Input abides by the constraints mentioned below.
- A RESET button which when clicked clears all the generated prime factors for the given input. The button should also reset the Input field and clear the Error messages if any.
- An Error area which is displayed whenever the user provides inputs which do not follow the constraints

When the User provides an input, it should comply with the following constraints:

- The number should be positive and greater than Zero (0).

When the user provides a valid input and clicks on the GENERATE Button:

- Default message must be displayed until the factors are calculated
- The generated Factors must be populated replacing the default message in the Results area
- CLEAR button must be displayed

When the user provides invalid input:

- Error message must be displayed
- GENERATE Button must be de-activated
- RESET button must be activated

SOFTWARES REQUIRED

The software that are needed for the application to be edited or executed

- *'browser'* → Any latest browser like Chrome, Firefox or Safari.

SOURCE CODE

The Source code for the application is in the '*PrimeFactorialGenerator*' folder

- '*index.html*' → This file has the javascript and jQuery source code for the application.
- 'styles.css' → This file has the styling for the page.

INSTALLATION NOTES

Simply double click on the 'index.html' file or Right-click on the 'index.html' file and open it in any browser of your choice

ABOUT THE APPLICATION

This application loads and allows the user to feed a positive number as Input and generate its Prime Factors. The application begins at the page displayed in screen shown in Figure 1.

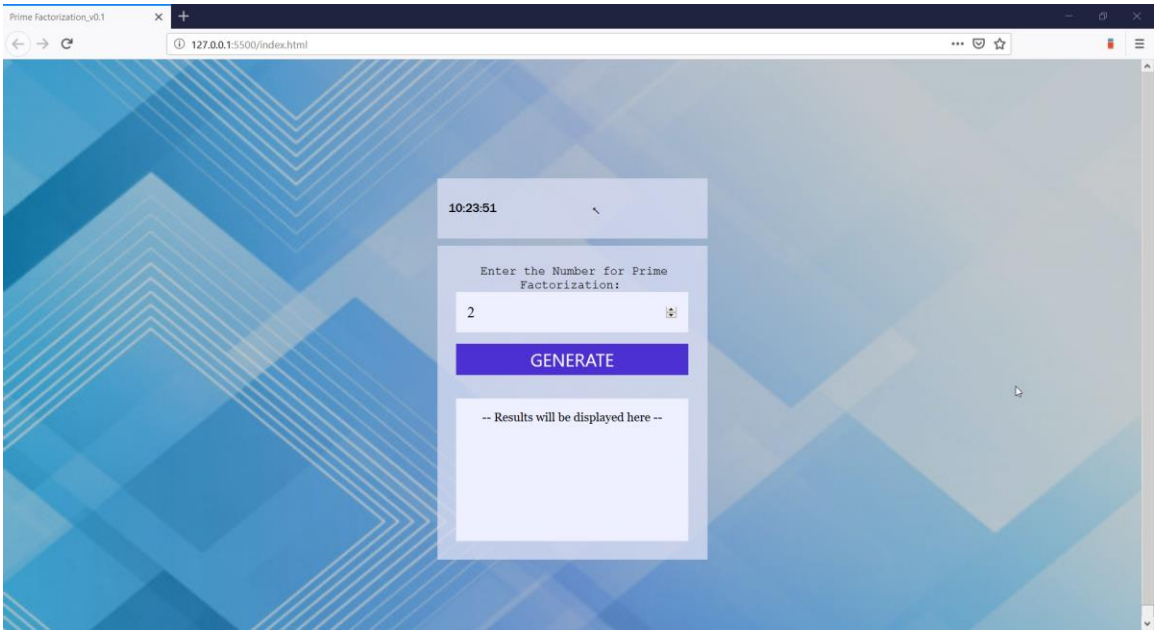

Figure 1: Load-up screen and also Reset screen

If the user provides an in-valid input then the screen show in Figure 2 is displayed.

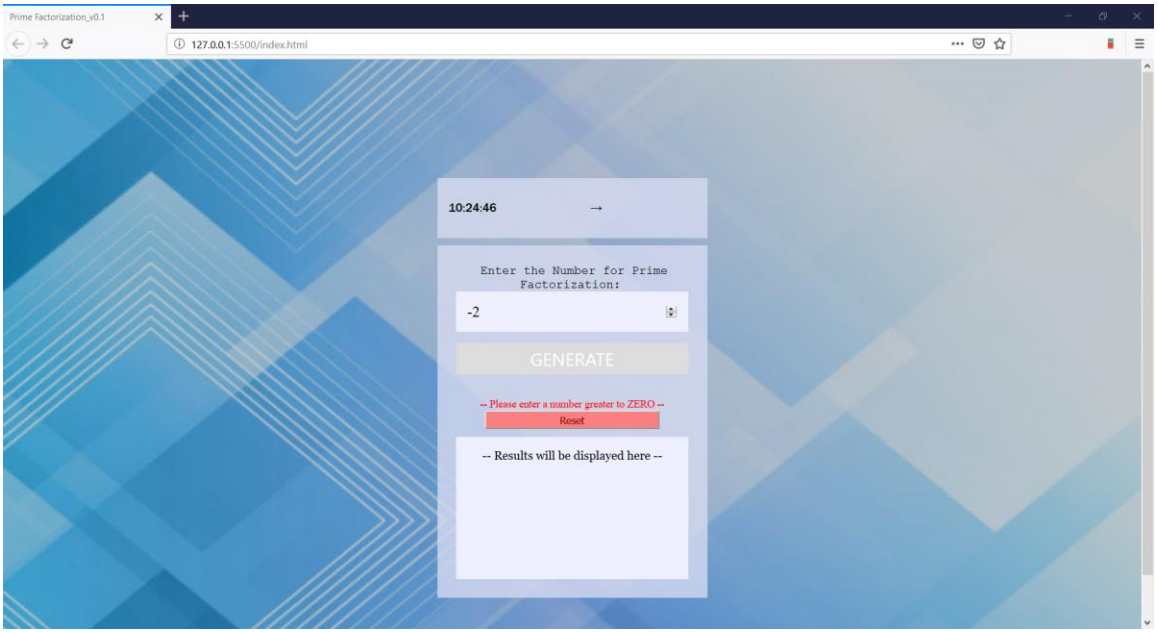

Figure 2: Screen with Error message for in-appropriate Inputs.

TEST CASES

If the user provides an valid input but there are no prime factors for it then the screen show in Figure 3 is displayed.

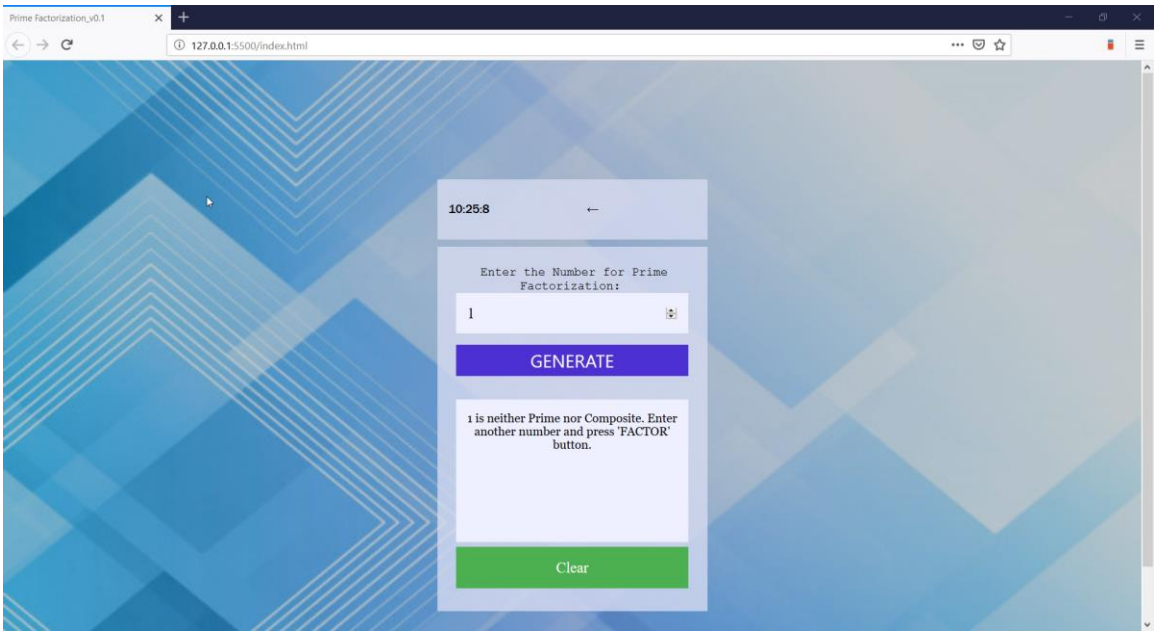

Figure 3: Screen when the numeric One is attempted to be factored

If the user provides an no input then the screen show in Figure 4 is displayed.

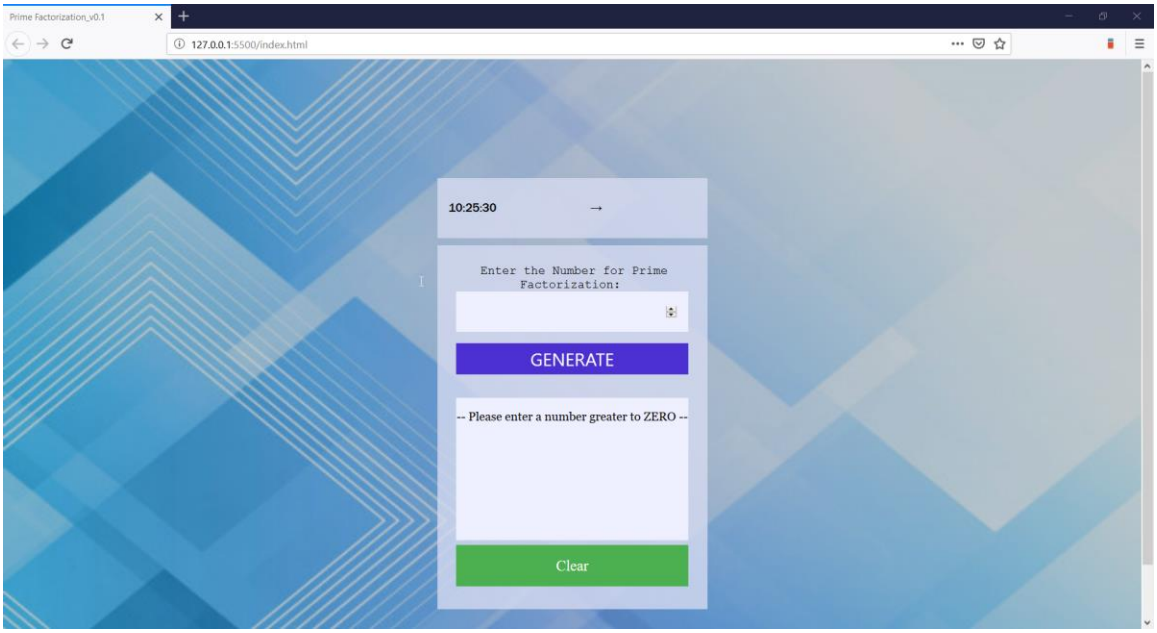

Figure 4: Screen when blank input is attempted to be factored

If the user provides a valid input then the screen show in Figure 5 is displayed.

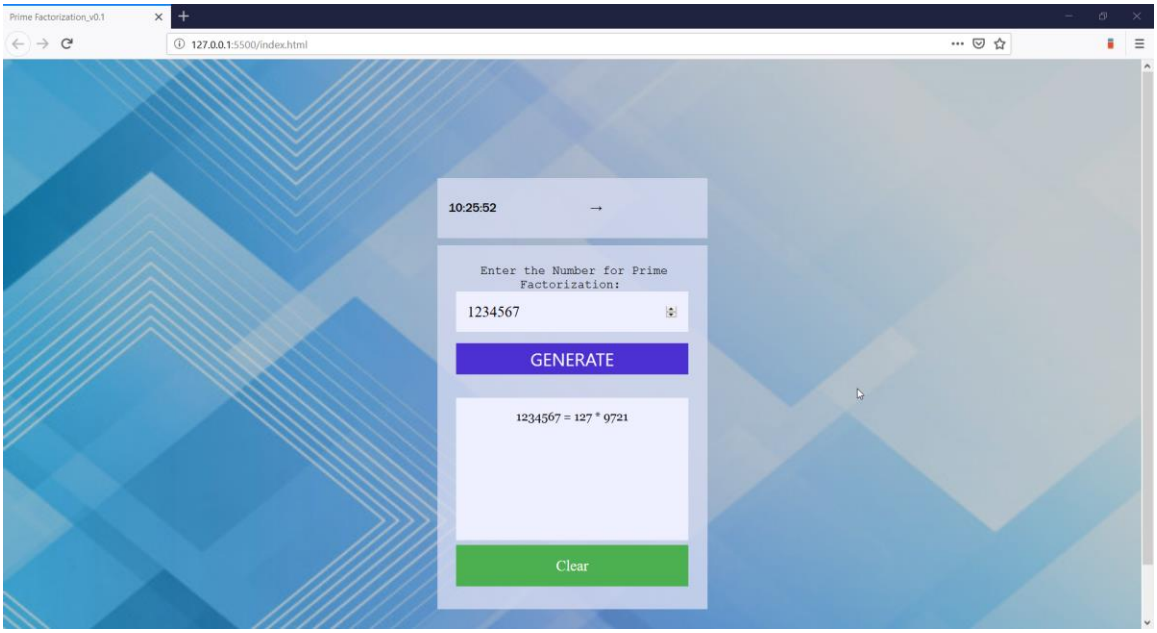

Figure 5: Screen for normal number prime factorization

If the user provides a valid large input then the screen show in Figure 6 is displayed.

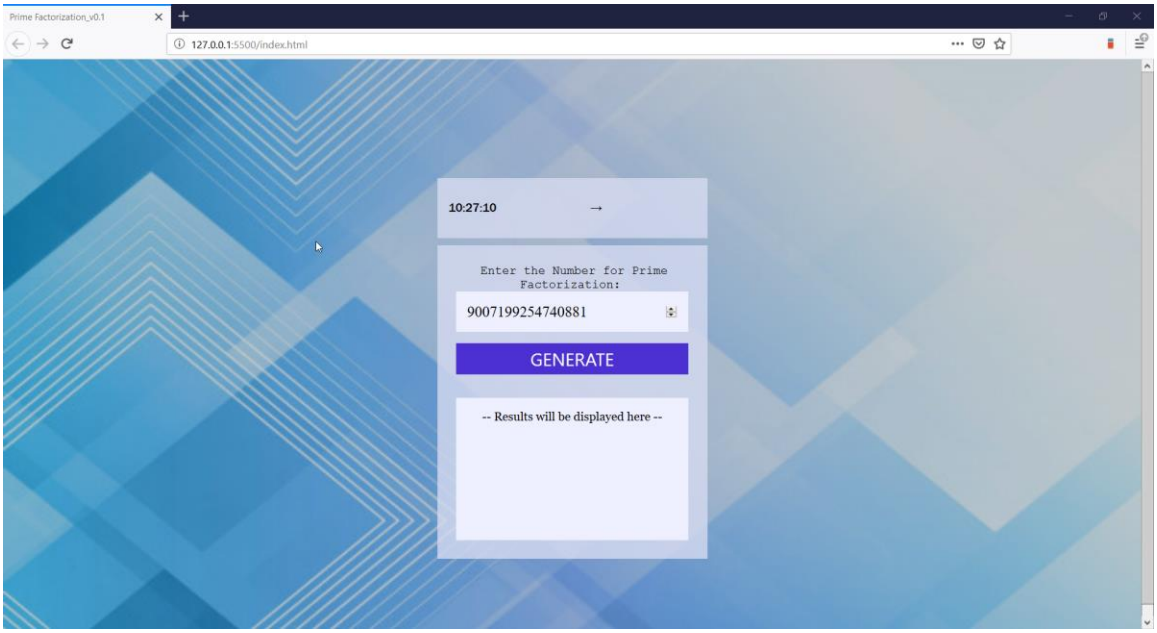

Figure 6: Screen for large number prime factorization