

In this document we show how to test all the things that can be done in the Presentation Layer of the project, which are all the use cases, so we will be defining what has to be done in each use case and what errors may appear.

We suppose that we are always starting each Use Case in the Main Menu. If you are not in the Main Menu, you can just press the Exit Button in each Menu until you are found in the one Menu in which there is no Exit Button, and that is the Main Menu

**Disclaimer:** there are some example input files in the /KEYBOARD\_GENERATOR/DATA directory for the creation of Alphabets, Texts, WordFrequencyLists, and Keyboards with names:

- Alphabet example:           alphabet\_example.txt
- FrequencyList example:   frequencyList\_example.txt
- WordList example:         wordList\_example.txt
- Text example:             lorem\_ipsum.txt

## Create Alphabet

1. Press the “My Inputs” Button.
2. Press the “Alphabets” Button.
3. Press the “Add” Button.
4. Write the ID of the Alphabet you want to create in the “ID. Alphabet” Box.
5. Choose the Characters that the Alphabet will have, which you can do it using one of two methods:
  - a. Write all the characters one by one without any spaces in between in the “List Of characters” Box.
  - b. Press the “Upload” Button, which will open a File Explorer window, and choose a .txt file that contains the characters that the Alphabet will have, written one by one without any spaces in between.
6. Press the “Add” Button.

**Possible errors that cancel the execution of the creation and show an error window:**

- There is already an Alphabet with the chosen name.
- The name chosen for the Alphabet is empty.
- There isn't any character in the list of characters chosen for the Alphabet to have.
- There is some character in the list of characters chosen that appears more than once.

## Delete Alphabet

1. Press the “My Inputs” Button.
2. Press the “Alphabets” Button.
3. Press the “Delete” Button.
4. Choose the Alphabet you want to delete by pressing the “ID. Alphabet” Box.
5. Press the Box which contains the name of the Alphabet you want to delete.

## Create Text

1. Press the “My Inputs” Button.
2. Press the “Transition Matrix(Text/WordFrequencyLists)” Button.
3. Press the “Add Transition from Text” Button.
4. Write the ID of the Text you want to create in the “ID. Transition” Box.
5. Choose the Alphabet that contains all the characters of the Text you want to create by pressing the “ID. Alphabet” button.
6. Press the Box which contains the name of the Alphabet you want to use.
7. Choose the list of characters that the Text will have, which you can do it using one of two methods:
  - a. Write the Text in the “Text” Box.
  - b. Press the “Upload” Button, which will open a File Explorer window, and choose a .txt file that contains the Text that you want to create
8. Press the “Add” Button.

### **Possible errors that cancel the execution of the creation and show an error window:**

- There is already a Transition Matrix with the chosen name of the new Text.
- The name chosen for the new Transition Matrix from a Text is empty.
- There is some character in the chosen or witten Text that it's not in the chosen Alphabet.
- The chosen or witten Text is empty.

## Create WordFrequencyList

1. Press the "My Inputs" Button.
2. Press the "Transition Matrix(Text/WordFrequencyLists)" Button.
3. Press the "Add Transition from WFL" Button.
4. Write the ID of the WFL you want to create in the "ID. Transition" Box.
5. Choose the Alphabet that contains all the characters of the Text you want to create by pressing the "ID. Alphabet" Button.
6. Press the Box which contains the name of the Alphabet you want to use.
7. Choose the list of frequencies that the WFL will have, which you can do it using one of two methods:
  - a. Write the list of frequencies with a line break in between the frequencies in the "FrequencyList" Box.
  - b. Press the "Upload" Button, which will open a File Explorer window, and choose a .txt file that contains the frequencies list that you want to use
8. Choose the list of words that the WFL will have, which you can do it using one of two methods:
  - a. Write the list of words with a line break in between the words in the "WordList" Box.
  - b. Press the "Upload" Button, which will open a File Explorer window, and choose a .txt file that contains the words list that you want to use
9. Press the "Add" Button.

### **Possible errors that cancel the execution of the creation and show an error window:**

- There is already a Transition Matrix with the chosen name of the new WFL.
- The name chosen for the new Transition Matrix from a WFL is empty.
- There is some character in the chosen or written in the Words list that it's not in the chosen Alphabet.
- The chosen or written WordList is empty.
- The chosen or written FrequencyList is empty.
- The number of elements in the WordList and the FrequencyList chosen or written is not the same

## Delete Transition

1. Press the "My Inputs" Button.
2. Press the "Transition Matrix(Text/WordFrequencyLists)" Button.
3. Press the "Delete Transition" Button.
4. Choose the Transition Matrix that you want to delete pressing the "ID. Transition" button.
5. Press the Box which contains the name of the Transition Matrix you want to delete.
6. Press the "Delete" Button

## Create Keyboard

1. Press the "My Keyboards" Button.
2. Press the "Add" Button.
3. Choose the Algorithm that you want to use to create the new Keyboard by pressing the "Algorithm" button.
4. Press the Box which contains the name of the Algorithm you want to use.
5. Choose the Transition Matrix that you want to use to create the new Keyboard by pressing the "Id. Transition Matrix" Button.
6. Press the Box which contains the name of the Transition Matrix you want to use.
7. Write the ID of the Keyboard you want to create in the "Name" Box.
8. Press the "Add" Button

### **Possible errors that cancel the execution of the creation and show an error window:**

- There is already a Keyboard with the chosen name of the new Keyboard.
- The name chosen for the new Keyboard is empty.

## Evaluate Keyboard

1. Press the "My Keyboards" Button.
2. Press the "Evaluate" Button.
3. Choose the Keyboard that you want to evaluate by pressing the "Keyboard" Button.
4. Press the Box which contains the name of the Algorithm you want to evaluate.
5. Choose the Transition Matrix that you want to use to evaluate the chosen Keyboard by pressing the "Transition Matrix" Button.
6. Press the Box which contains the name of the Transition Matrix you want to use.
7. Press the "Evaluate" Button

## Consult Keyboard

1. Press the "My Keyboards" Button.
2. Choose the Keyboard that you want to consult by pressing the Button at the top of the window.
3. Press the Box which contains the name of the Keyboard you want to consult.
4. Press the "Display" Button.

## Modify Keyboard

1. Press the "My Keyboards" Button.
2. Choose the Keyboard that you want to consult by pressing the Button at the top of the screen.
3. Press the Box which contains the name of the Keyboard you want to consult.
4. Press the "Display" Button.
5. Press the "Editor mode" Button.
6. Press the two characters which you want their positions to be exchanged.

## Delete Keyboard

1. Press the "My Keyboards" Button.
2. Press the "Delete" Button.
3. Choose the Keyboard that you want to delete by pressing the "Keyboard Name" Button.
4. Press the Box which contains the name of the Keyboard you want to delete.
5. Press the "Delete" Button.

## Exit

1. Press the "X" button at the top right corner of the window, located in any of the Menus of the application, to exit the application and stop its execution.