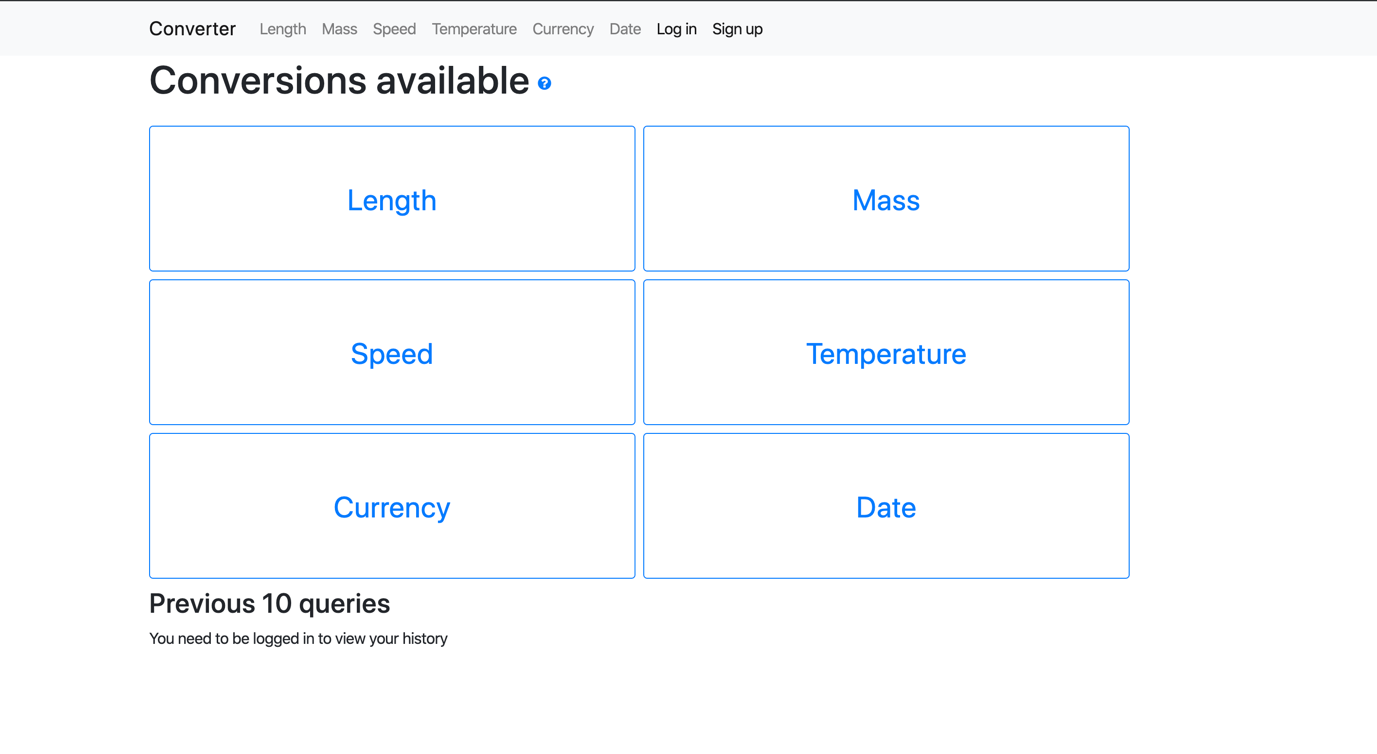
Converter case study

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# Prerequisites

* An Internet connection
  + To connect to API
  + To install modules if needed
* Installed Python locally (Python 3+)
  + On Windows, it should be available under the command ‘python’ in CMD
  + On MacOS, it should be available under the command ‘python3’ in the terminal
  + On Ubuntu, it should be available under the command ‘python3’ in the terminal
* Installed pip
  + To test if pip installed, execute ‘pip’ in CMD or the terminal. If it is installed, the usage menu will be displayed. If not, an error will appear
  + If pip is not installed, follow this link for instruction: <https://pip.pypa.io/en/stable/installing/>
* On Ubuntu: python3-venv
  + If it is not installed, install it by executing ‘apt-get install python3-venv’

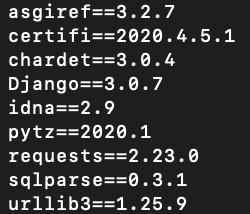
# Usage

## MacOS

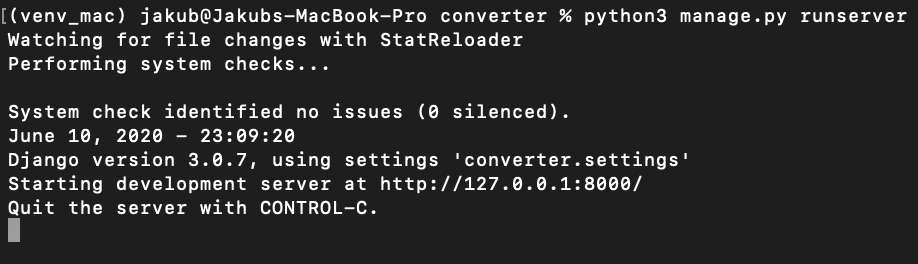
1. In the terminal, navigate into the converter\_case\_study folder (folder containing converter, user\_interface, venv\_mac folders etc.)
2. Create a new virtual environment by executing ‘python3 -m venv venv’
3. Activate the virtual environment using ‘source venv/bin/activate’
4. If everything executes successfully, your terminal input should be preceded by ‘(venv)’, like below



1. Install the necessary modules using ‘pip install -r requirements.txt’
2. Verify that all the necessary modules are installed using ‘pip freeze’, which should produce a list as below



1. Run the server using ‘python3 manage.py runserver’
2. In your browser, navigate to the IP address output in the console, example below



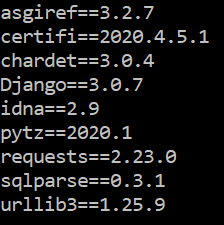
1. The website should load in the browser

## Windows

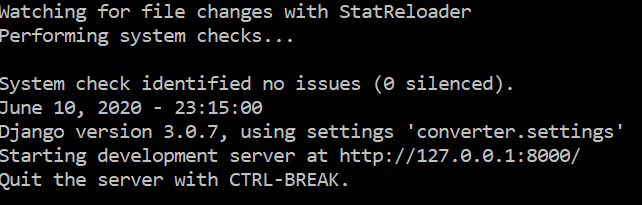
1. In CMD, navigate into the converter\_case\_study folder (folder containing converter, user\_interface, venv\_mac folders etc.)
2. Create a new virtual environment by executing ‘python -m venv venv’
3. Activate the virtual environment using ‘venv\Scripts\activate’
4. If everything executes successfully, your CMD input should be preceded by ‘(venv)’, like below



1. Install the necessary modules using ‘pip install -r requirements.txt’
2. Verify that all the necessary modules are installed using ‘pip freeze’, which should produce a list as below



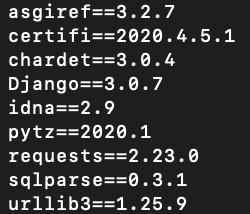
1. Run the server using ‘python manage.py runserver’
2. In your browser, navigate to the IP address output in the console, example below



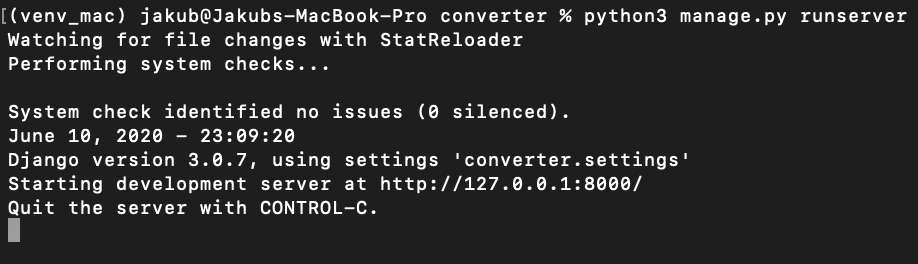
1. The website should load in the browser

## Ubuntu

1. In the terminal, navigate into the converter\_case\_study folder (folder containing converter, user\_interface, venv\_mac folders etc.)
2. Create a new virtual environment by executing ‘python3 -m venv venv’
3. Execute ‘source venv/bin/activate’
4. If everything executes successfully, your terminal input should be preceded by ‘(venv)’
5. Install the necessary modules using ‘pip install -r requirements.txt’
6. Verify that all the necessary modules are installed using ‘pip freeze’, which should produce a list as below



1. Run the server using ‘python3 manage.py runserver’
2. In your browser, navigate to the IP address output in the console, example below

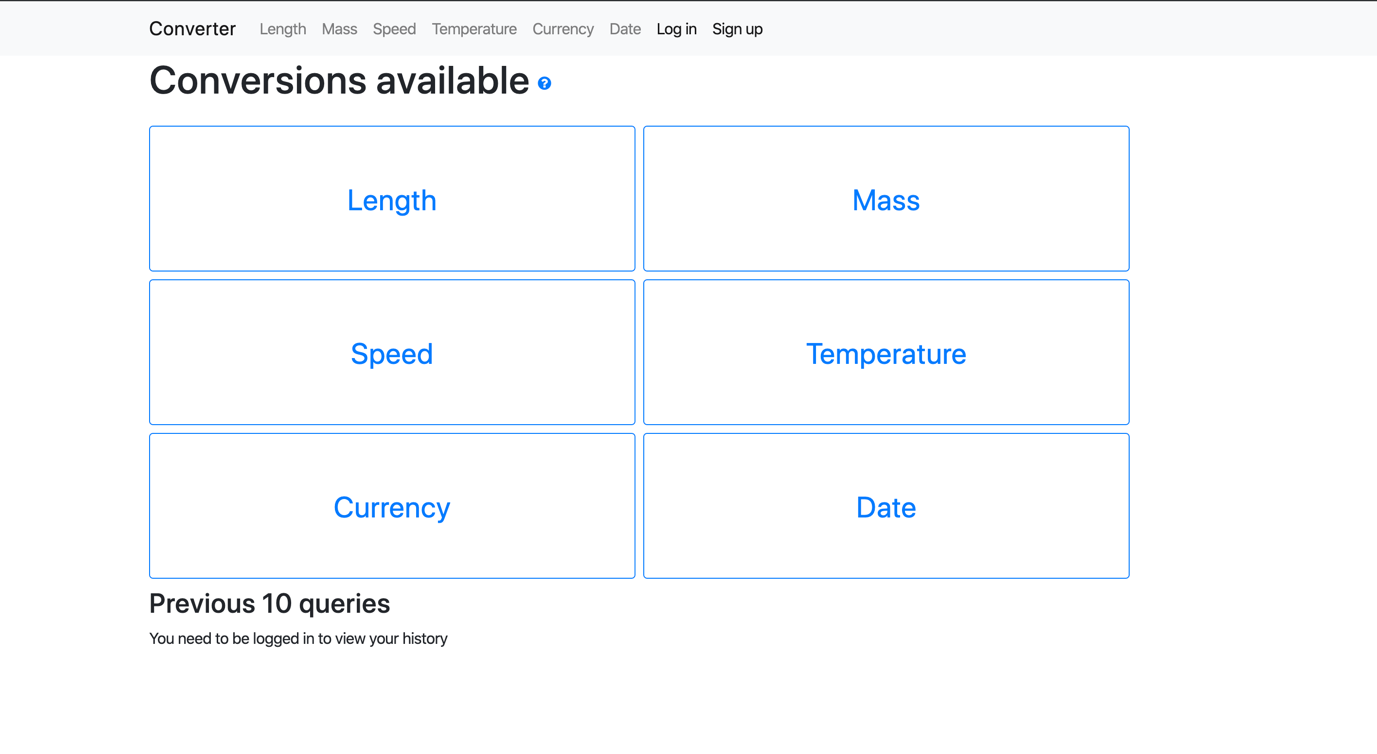


1. The website should load in the browser

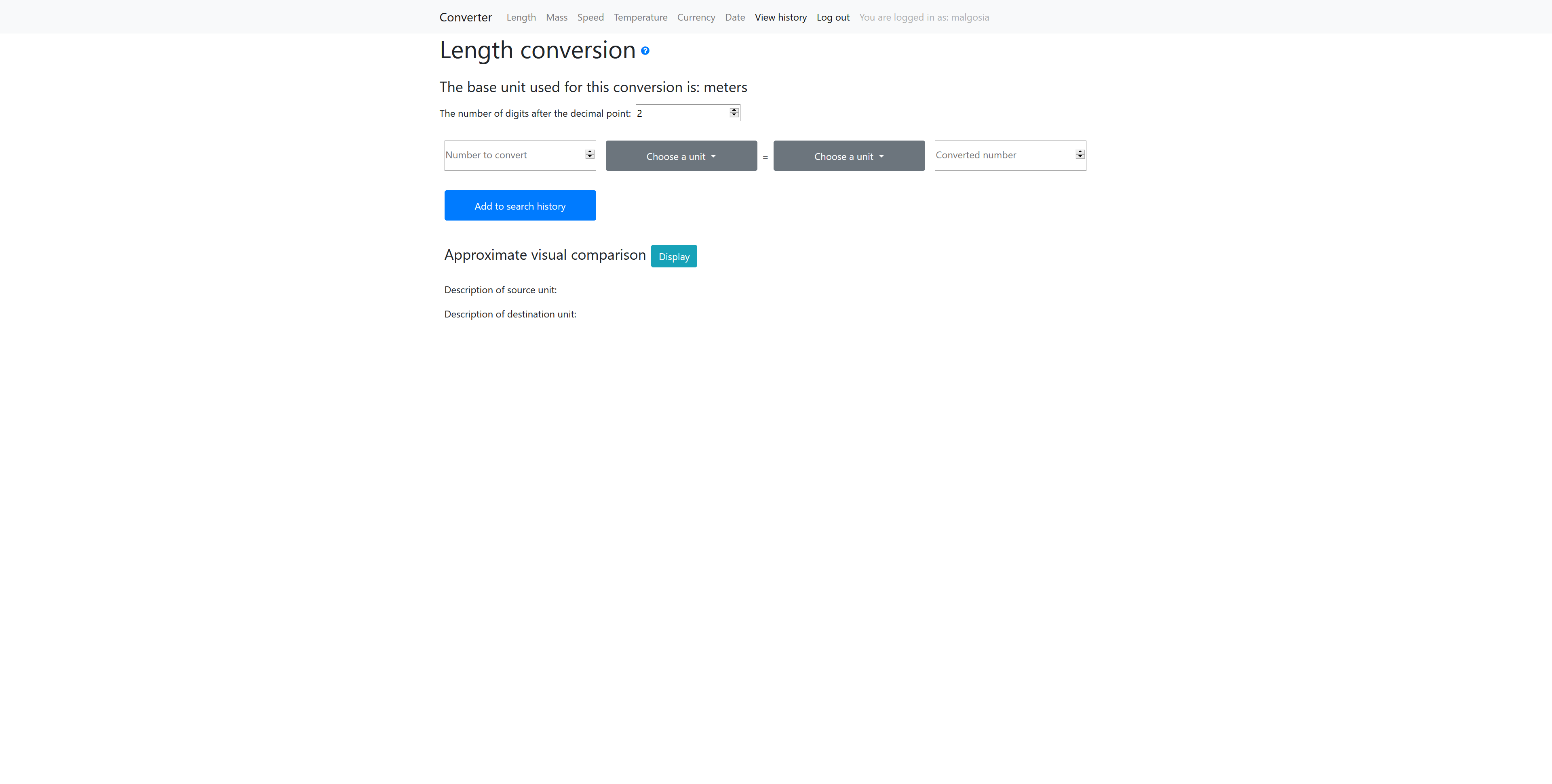
## MacOS error

1. In the terminal, navigate into the converter\_case\_study folder (folder containing converter, user\_interface, venv\_mac folders etc.)
2. Create a new virtual environment by executing ‘python3 -m venv venv’
3. Activate the virtual environment using ‘source venv/bin/activate’
4. Install the necessary modules using ‘pip install -r requirements.txt’
5. After all the modules get installed, execute ‘python3 manage.py runserver’ and continue with the instructions from the ‘MacOS section

# The converter



After the page loads up, the main menu will appear. Here, you can select what type of conversion you want to perform. The types of conversions are also available at the navigation bar at the top. The main menu is easily scalable, e.g. if you make the window thinner, the button will appear in a column instead of a grid and the navigation bar will collapse, with a button to expand it.



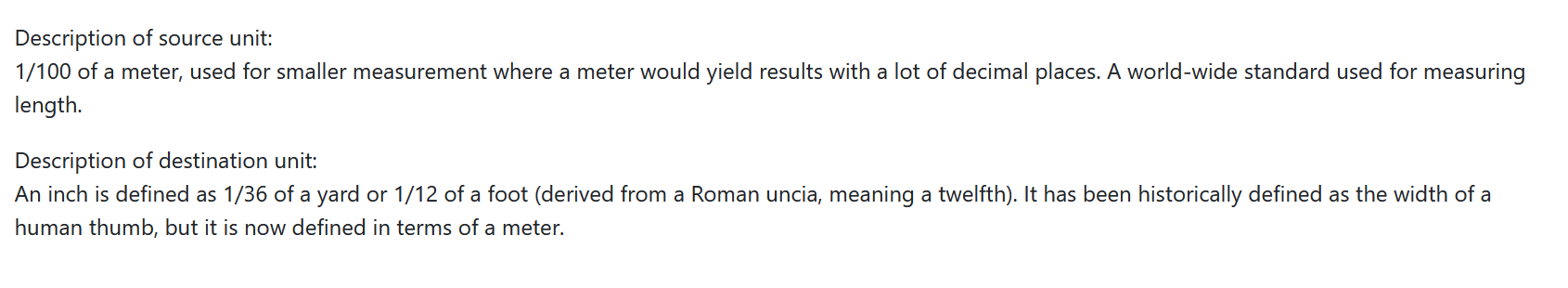
As an example, this is the length conversion site. You can input a value into the left field, select what unit this value is, then select to what unit you want to convert to, and the converted value will appear in the right field.

You can either type in the values that you want to convert, or use the up and down arrows to increase or decrease the value of the field.

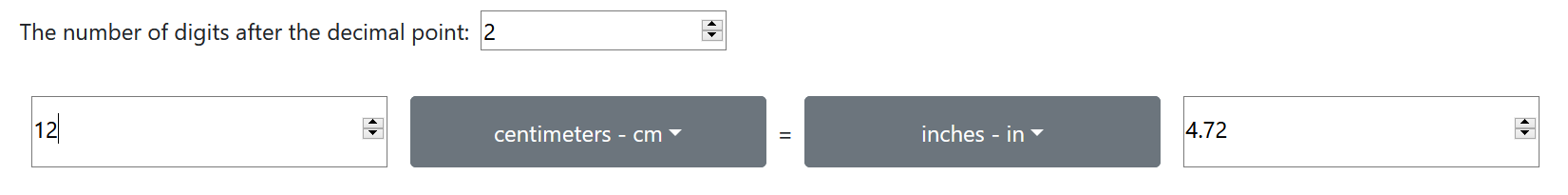


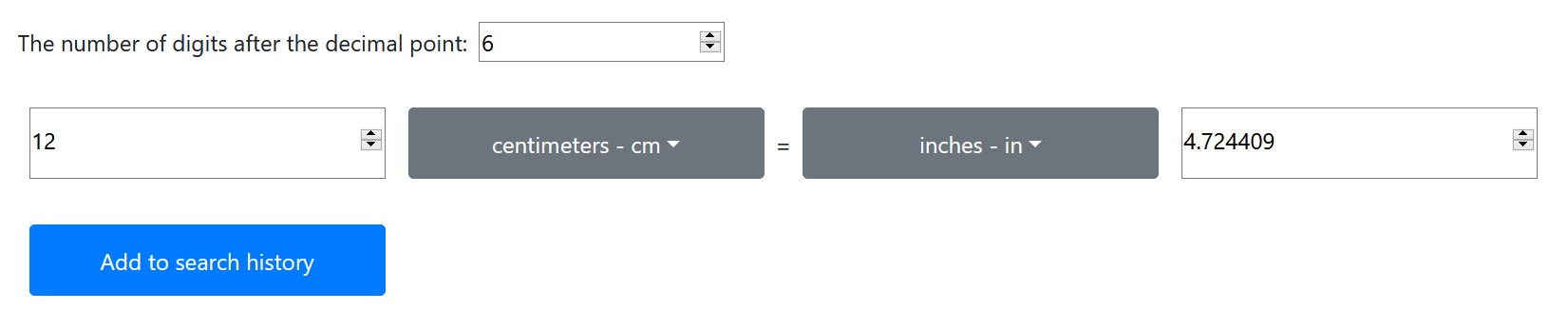
For most units, negative numbers are not valid, and the field will glow red to indicate that.

After selecting each unit, a short description and history of the unit will appear at the bottom of the converter.

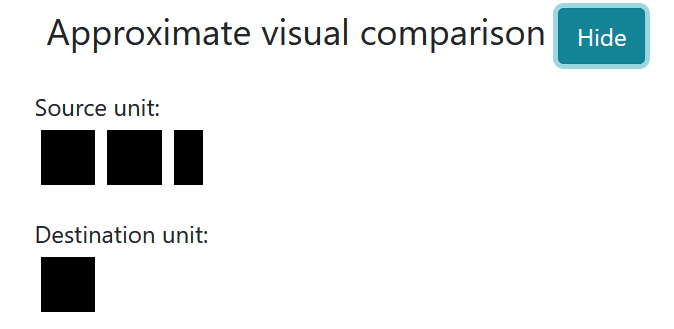


You can also change the number of digits after the decimal point displayed in the converted number.



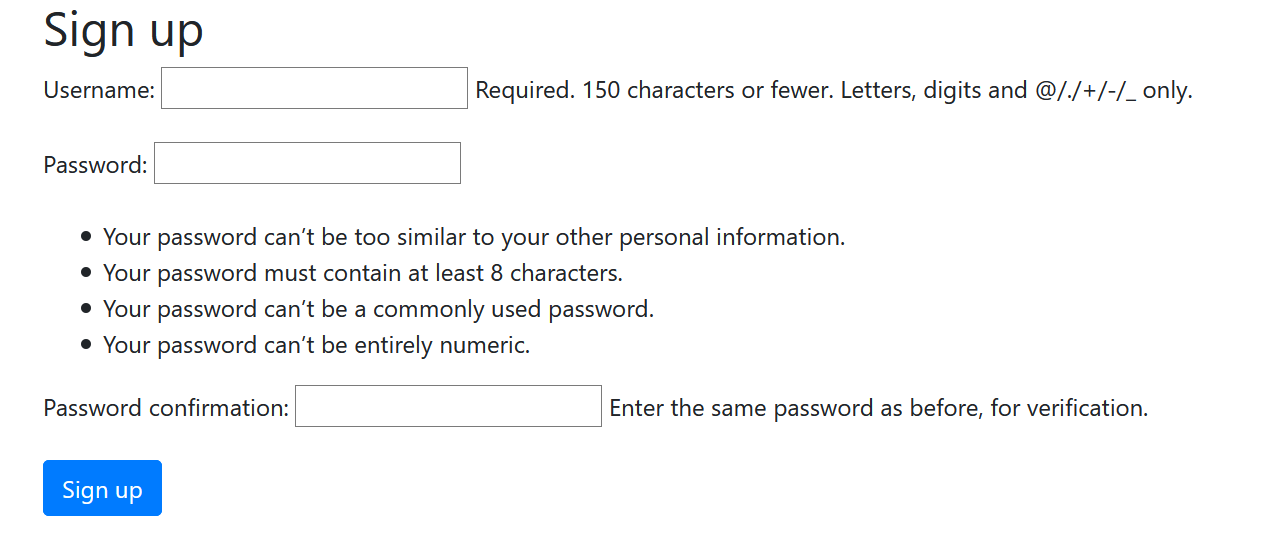


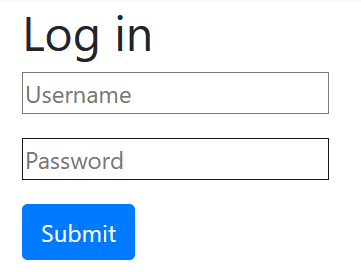
You can also see a visual comparison of the two units by pressing the ‘Display’ button next to the ‘Approximate visual comparison’ heading.



If you are logged in, a ‘Add to search history’ button will also be visible. After inputting all the values correctly (e.g. no negatives, selected units), you can save the query for later by pressing the button.

There is also a possibility to sign up or log in, if you already signed up.

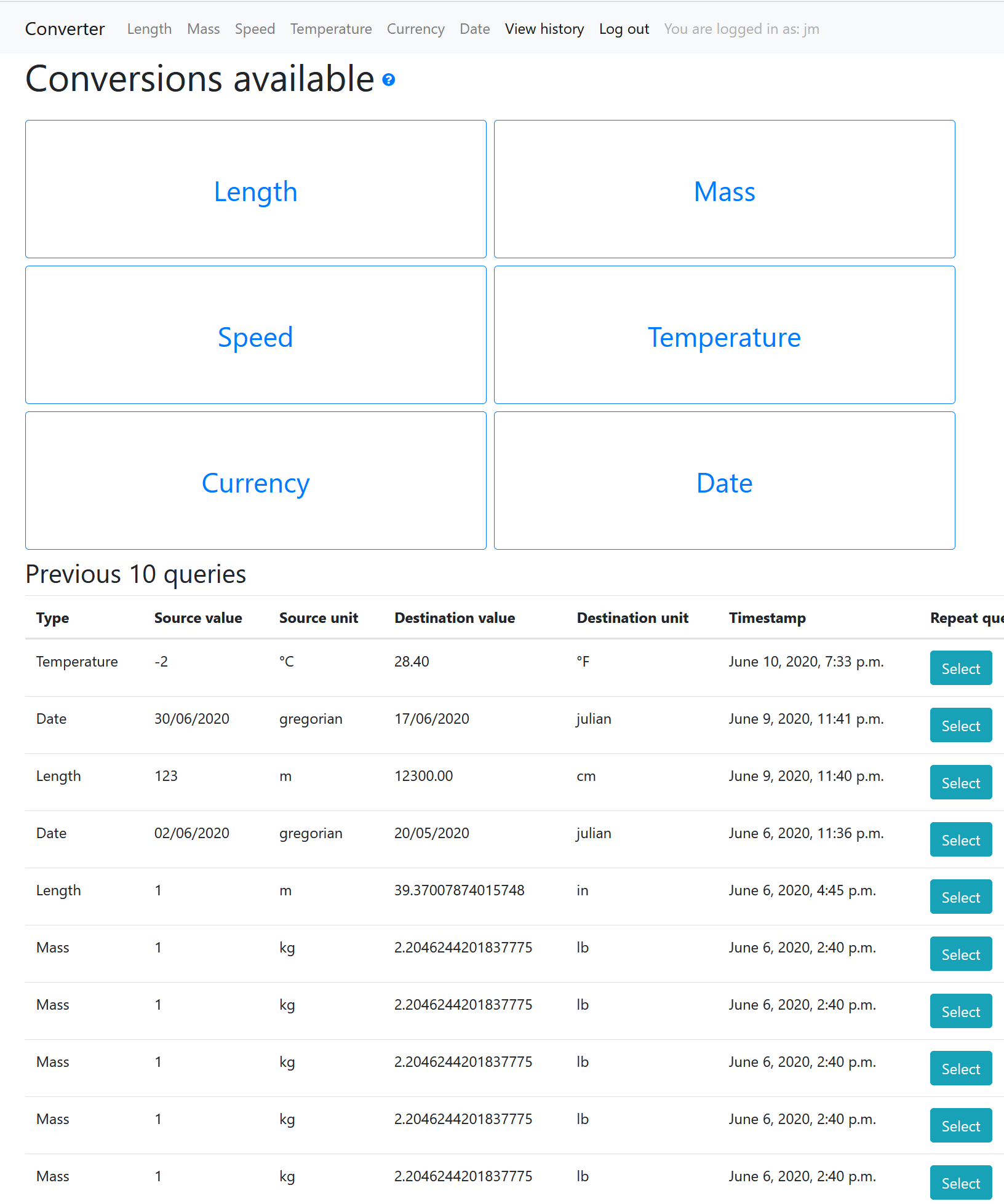


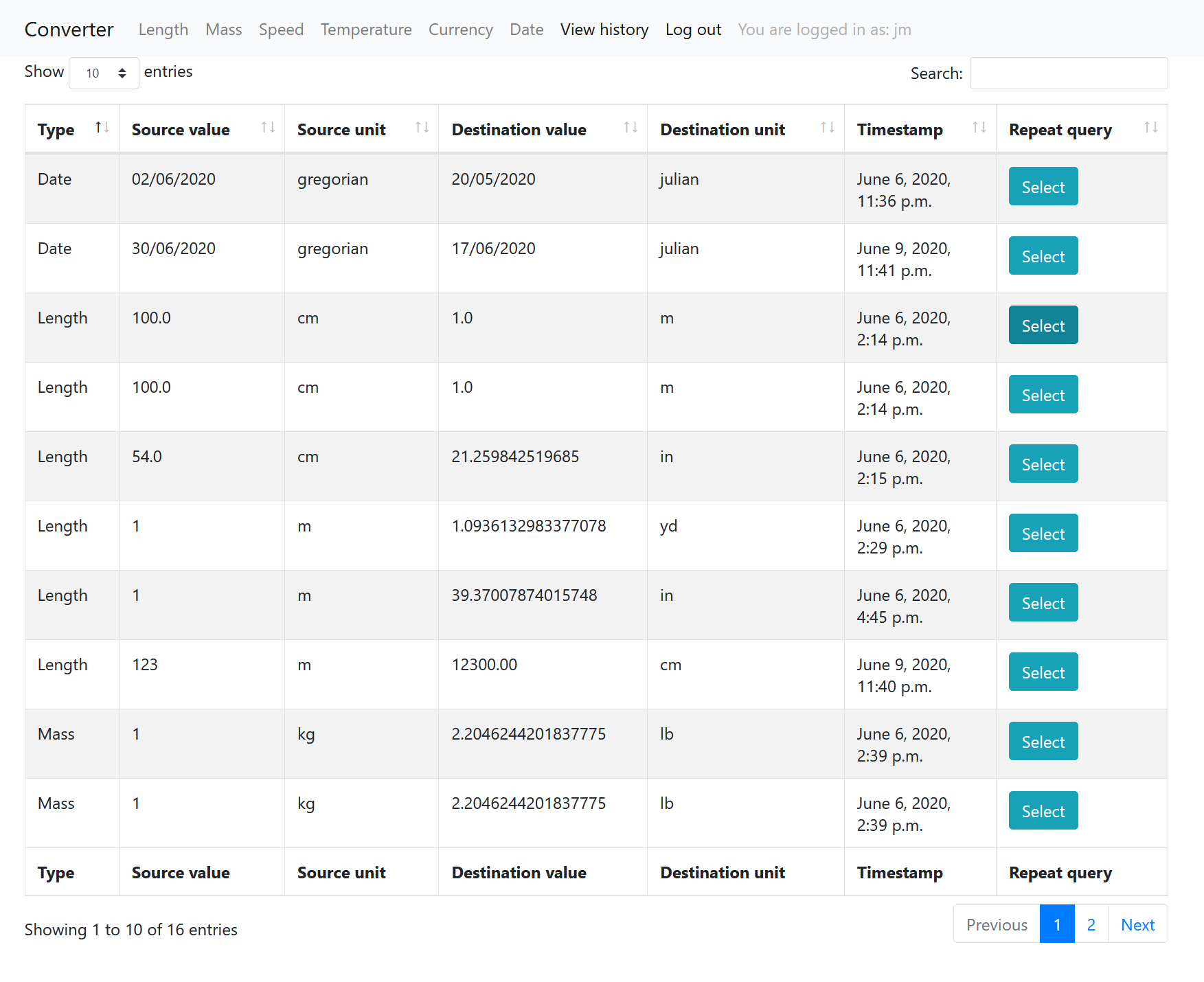




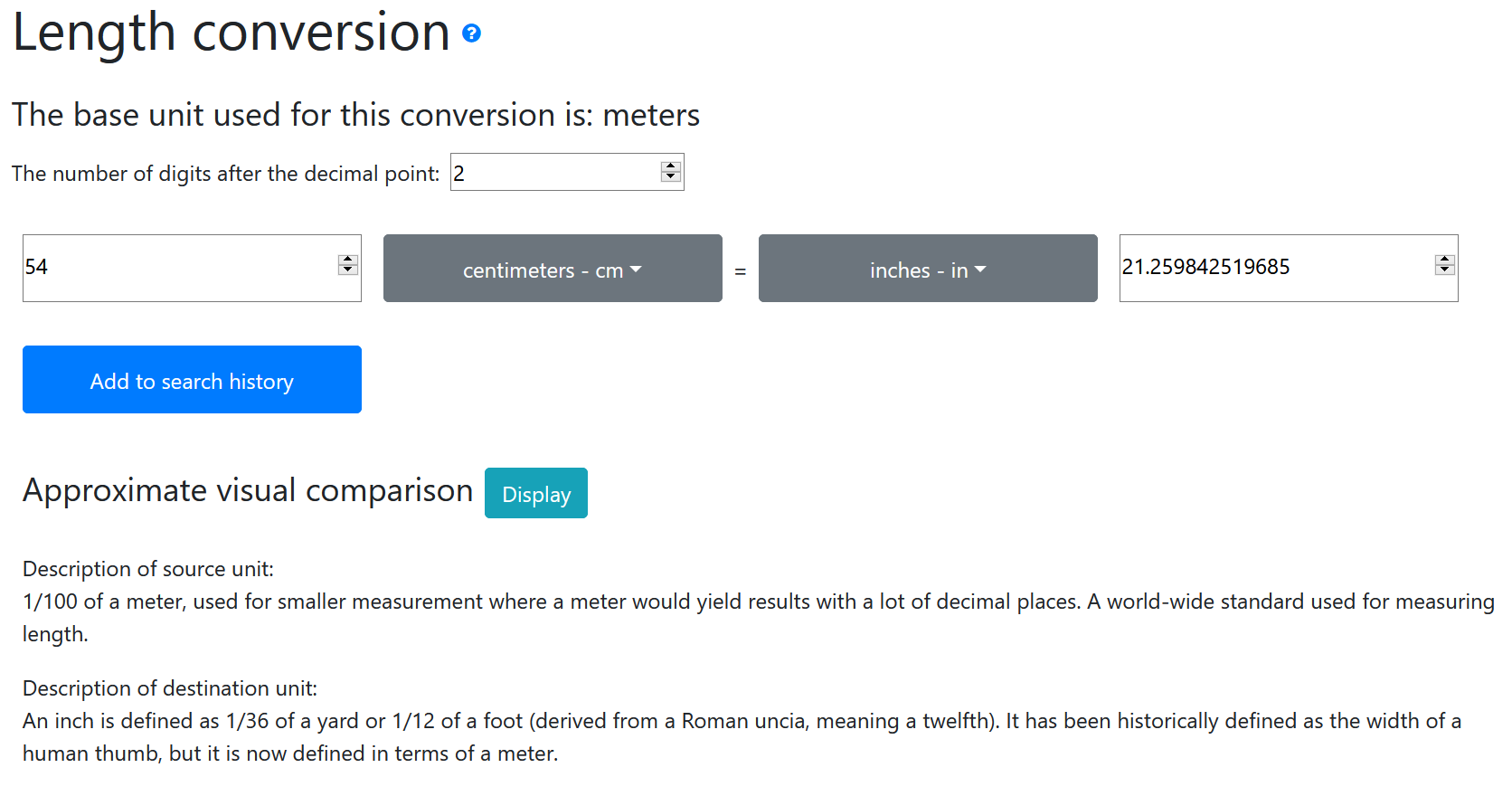


When logged in, you have the possibility to save your queries and display them, either the last 10 on the main page, or all of them in the ‘View history’ section, accessed via the navigation bar. Your username will also be displayed in the navigation bar.





If you press on one of the ‘Select’ buttons next to a query, it will redirect you to the converter you used with the values already inputted.

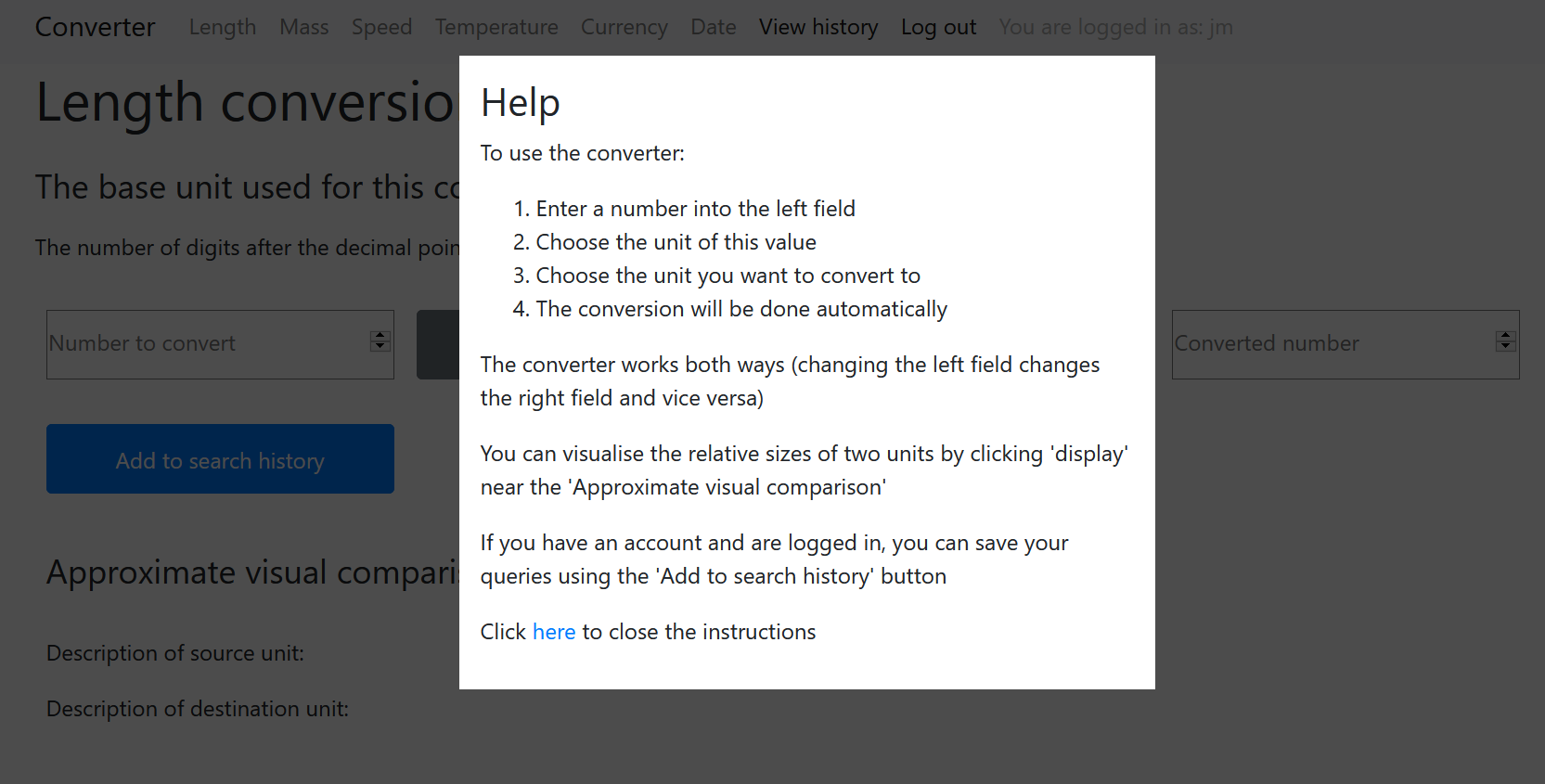
You can then manipulate this query and save it as a new item in your personal search history.

All queries are assigned to a user. A user is not able to retrieve queries not belonging to him.



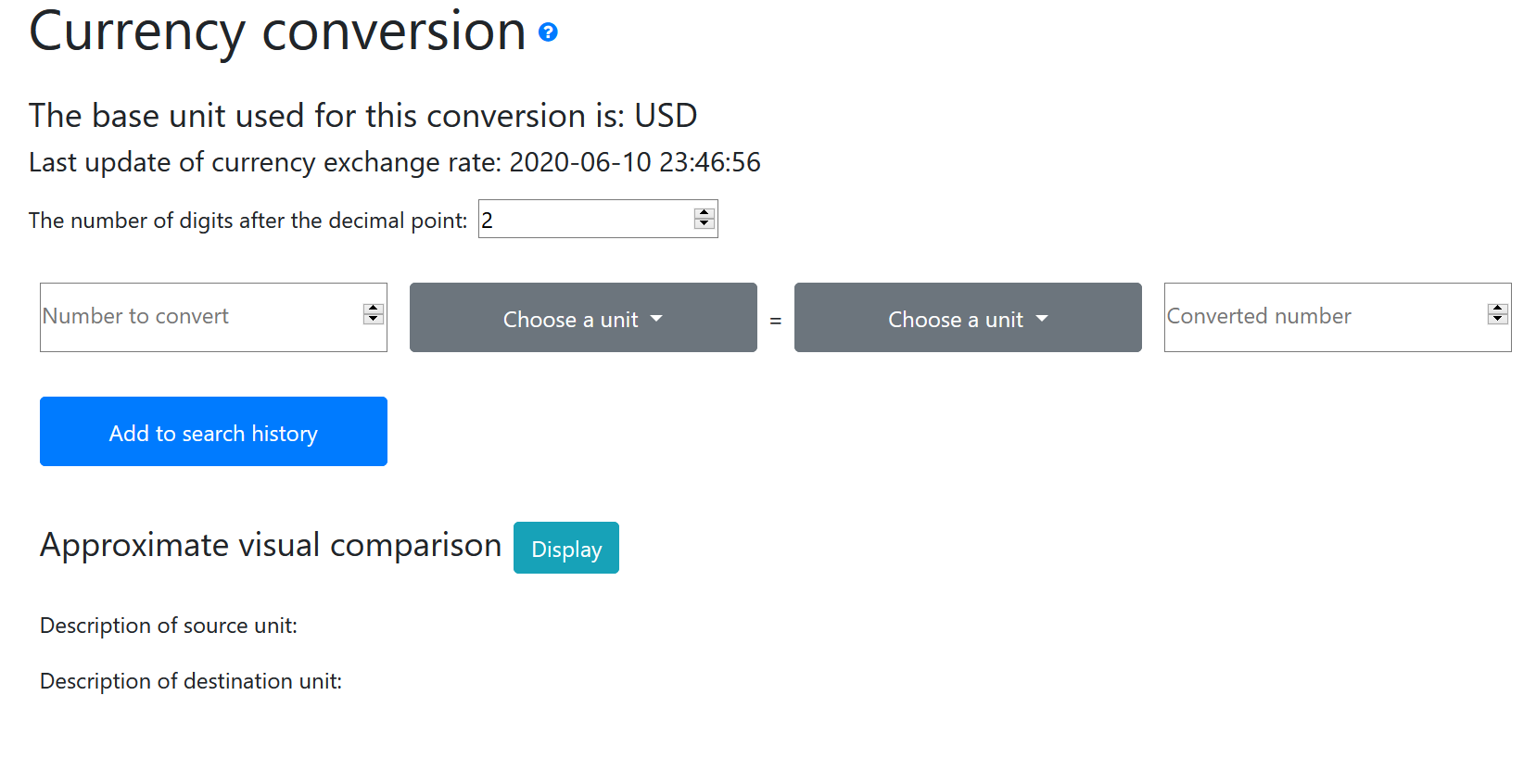
All the pages have a question mark next to the heading of the pages. Clicking it will display a popup window with the instructions on how to use the page.



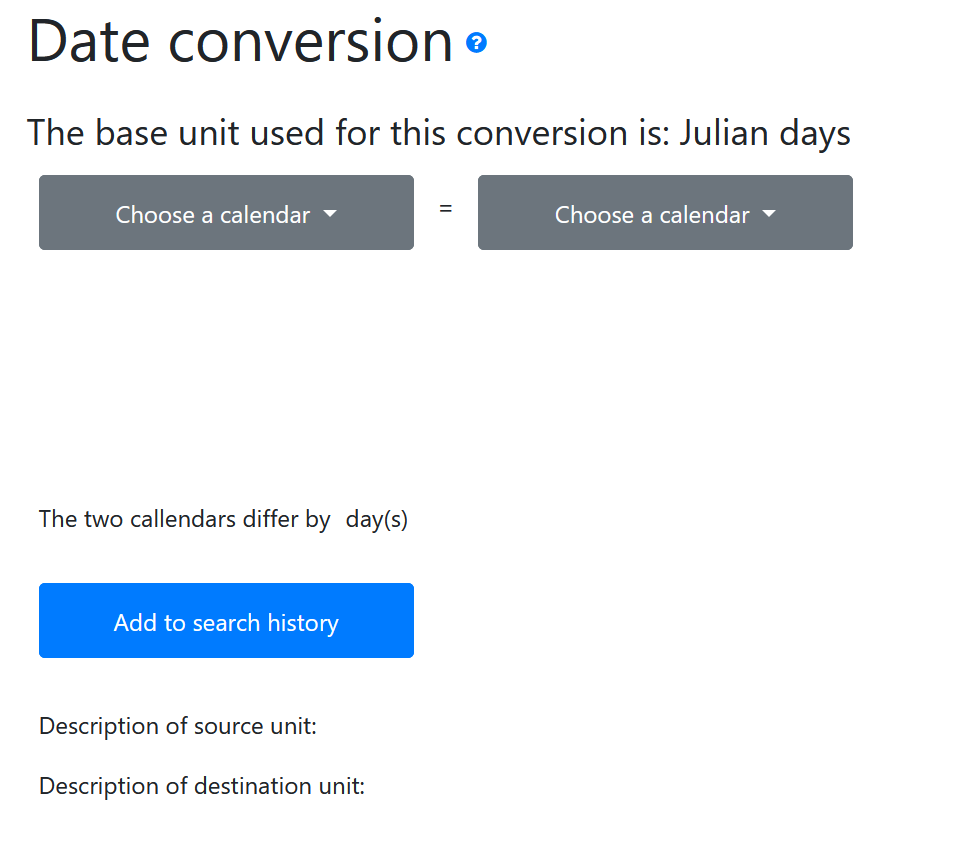


## Currency

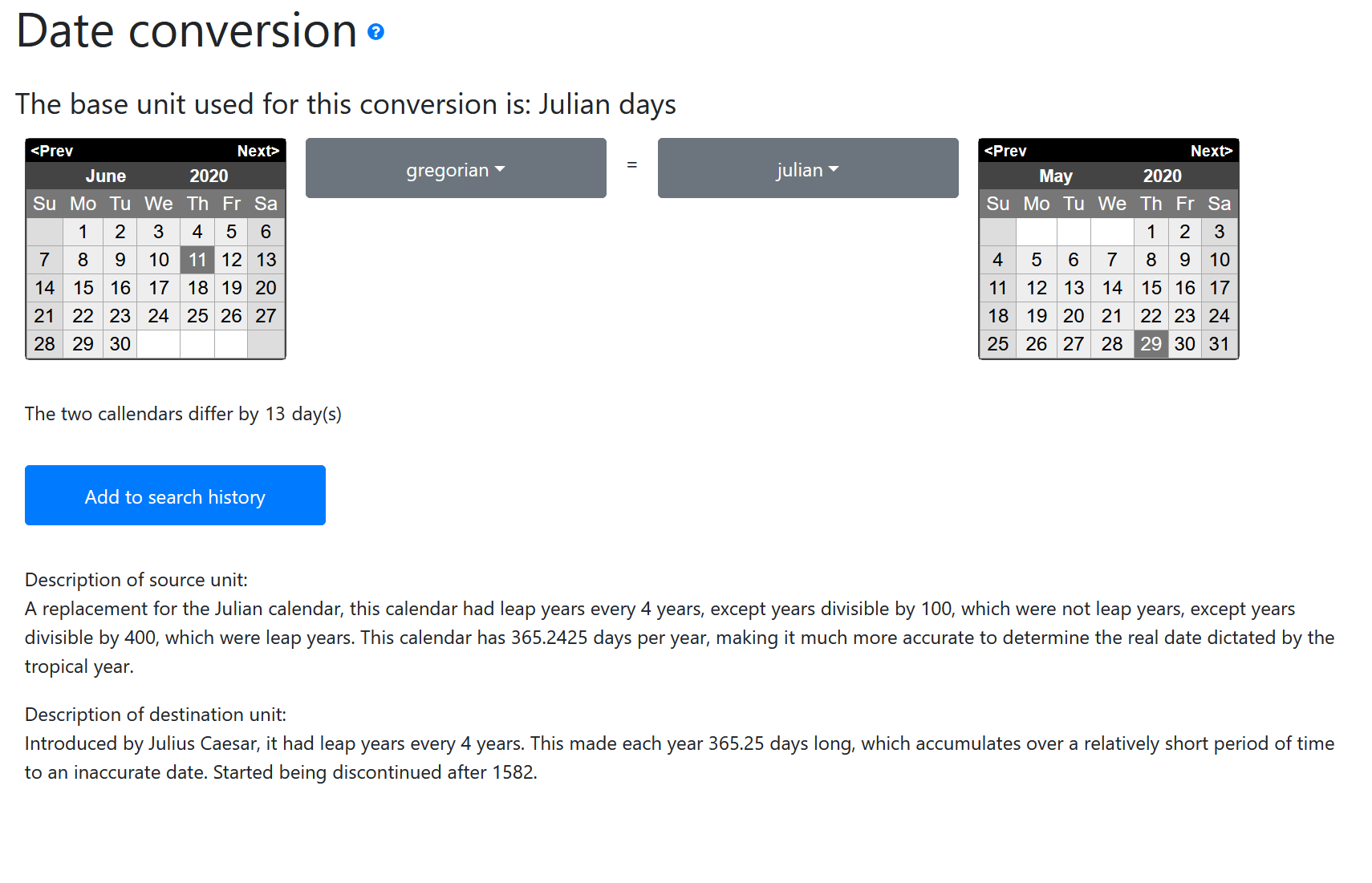
Every time the currency converter is selected, the website will download the latest exchange rates from the internet via an API.



## Date



For the date conversion, first, select the calendar you want to convert from, then the calendar you want to convert to. Two calendars will appear on the page.



You can then select a date on one of the calendars, and the converted date will appear on the other one. The number of days that the two calendars differ by will also appear.

