

## Testing feature 2, 3, 4

### 1.General behaviour testing:

#### 1.1 Legend

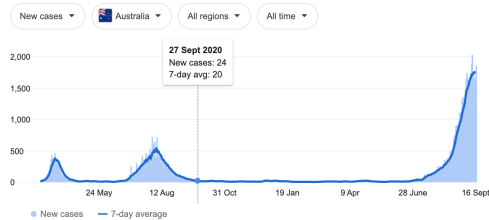
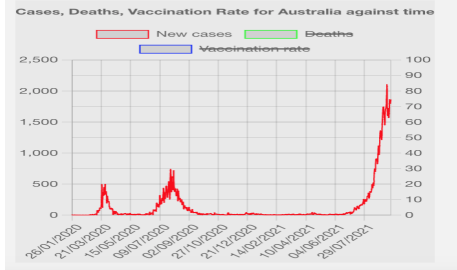

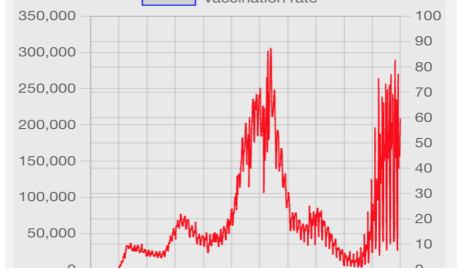
Description	Action or input	Expect	Result
Cross out legend of case and keep death and vaccine rate active	Click to case	Graph axis on the left value will be change to fit death rate, no change to vaccine rate	As expected
Cross out legend of death and keep cases and vaccine active	Click to death	Graph axis on the left will be changed to fit cases, no change to vaccine rate or right axis	As expected
Cross out legend of vaccine rate and keep death,cases active	Click to vaccine	Vaccine rate won't be displayed, the right axis stay the same	As expected
Cross out all	Click once to all legend	Both left and right axis stay the same, no data will be displayed	As expected

## 1.2 Country input

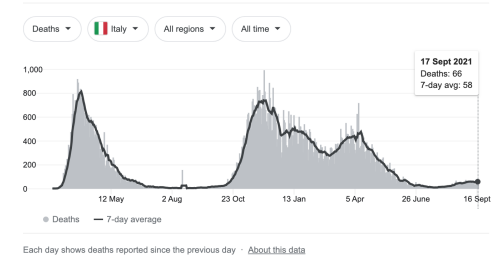
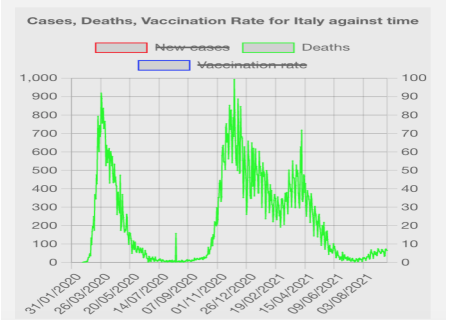
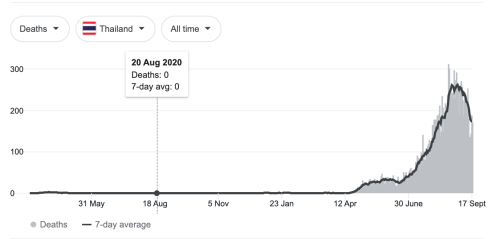
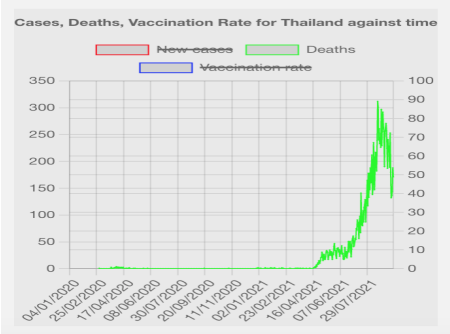
Description	Action or input	Expect	Result
Input a valid country or continent	"Australia"	Country name on title will be changes, data in the graph will be changed to Australia data	As expected
Input a valid country or continent, which doesn't have vaccination rate data	"Benin"	Country name on title will be changed, data in the graph will be changed to Benin's data. No Vaccination rate will be displayed on graph	As expected
Input wrong country name	"hello"	Web alert about wrong input for country	As expected
Blank input field	""	Web alert wrong input for country	As expected

### 3.User story testing

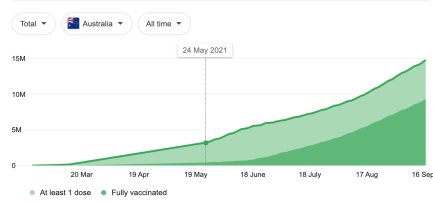
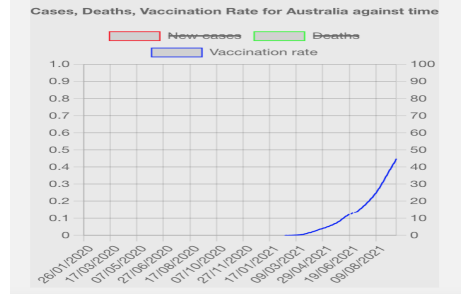
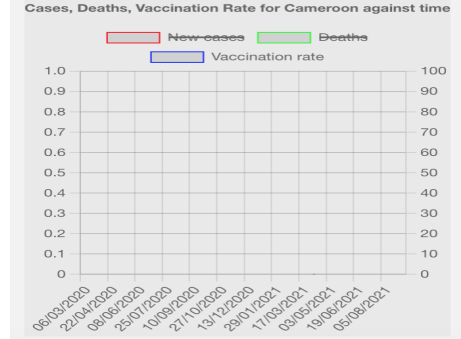
2.3 As Alice, after choosing the country, I want to be able to see the daily cases displayed on the line graph if it is available so that I can see the cases data in a visual format

Test no.	Description	Action or input	Expect output	Actual output
001	Display the daily cases for Australia	Choose Australia from the Country selection drop down, then click "Submit" button and cross out deaths and vaccination rates.		
002	Display the daily cases for America	Choose United States from the Country selection drop down, then click "Submit" button and cross out deaths and vaccination rates.		

2.4 As Alice, after choosing the country, I want to be able to see the death rate displayed on the line graph if it is available so that I can see the death rate data in a visual format

Test no.	Description	Action or input	Expect output	Actual output
003	Display the death rates for Italy	Choose Italy from the Country selection drop down, then click “Submit” button and cross out new cases and vaccination rates.		
004	Display the death rates for Thailand	Choose Thailand from the Country selection drop down, then click “Submit” button and cross out new cases and vaccination rates.		

2.5 As Alice, after choosing the country, I want to be able to see the vaccination rate displayed on the line graph if it is available so that I can see the vaccination data in a visual format

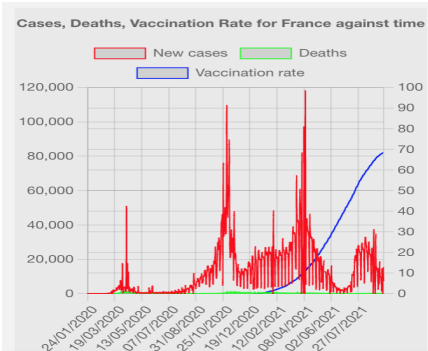
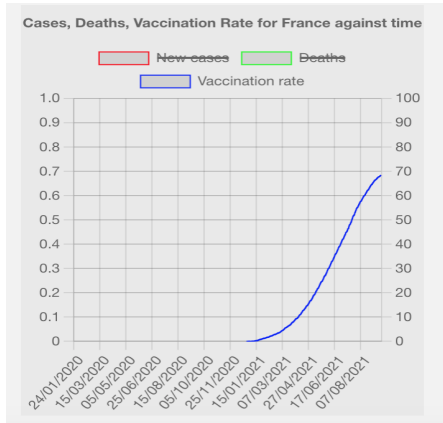
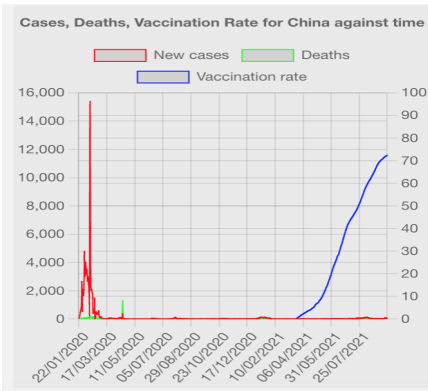
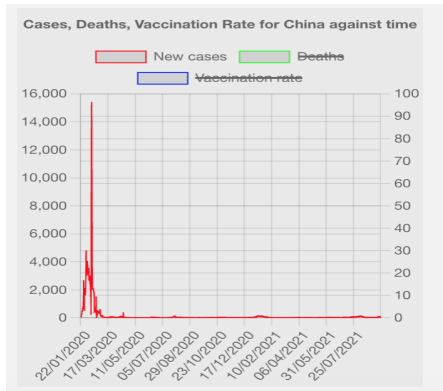
Test no.	Description	Action or input	Expect output	Actual output
005	Display the vaccination rates for Australia	Choose Thailand from the Country selection drop down, then click "Submit" button and cross out new cases and deaths.		
006	Display the vaccination rates for Cameroon	Choose Thailand from the Country selection drop down, then click "Submit" button and cross out new cases and deaths.	Nothing since API does not have the vaccination rates information for this country	

Developer end for user stories 2.3, 2.4, 2.5:

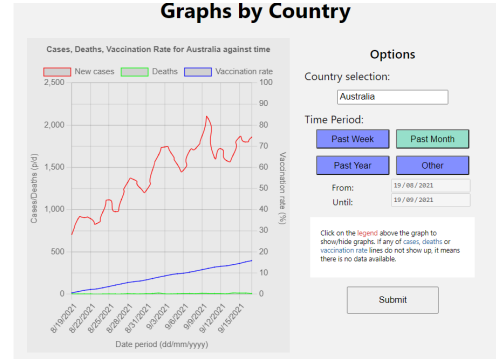
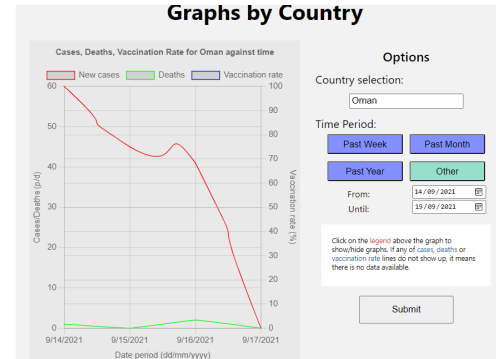
```
for (let i = 0; i < Covid_data.length; i++) {
  if (Covid_data[i][1].location === country) {
    console.log(startDay)
    // add vaccination to data
    let vaccination = []
    let vacTotal = null
    let death = []
    let cases = []
    let dateRange = false
    if (startDay === "" || Date.parse(startDay) < Date.parse(Covid_data[i][1].data[0].date)){
      dateRange = true
    }
    for (let j = 0; j < (Covid_data[i][1].data.length); j++) {
      console.log(Covid_data[i][1].data[j].date)
      if(Covid_data[i][1].data[j].date == startDay){
        console.log("out",Covid_data[i][1].data[j].date)
        dateRange = true
      }
      if(Covid_data[i][1].data[j].date == endDay){
        console.log("in",Covid_data[i][1].data[j].date)
        dateRange = false
      }
      if (dateRange){
        if (Covid_data[i][1].data[j].hasOwnProperty("new_vaccinations")) {
          vacTotal += Covid_data[i][1].data[j].new_vaccinations
          vaccination.push({ rate: (vacTotal * 100 / Covid_data[i][1].population) / 2, date: Covid_data[i][1].data[j].date })
        }
        if (Covid_data[i][1].data[j].hasOwnProperty("new_deaths")) {
          death.push({ rate: Covid_data[i][1].data[j].new_deaths, date: Covid_data[i][1].data[j].date })
        }
        cases.push({ rate: Covid_data[i][1].data[j].new_cases, date: Covid_data[i][1].data[j].date })
      }
    }

    data.push(vaccination)
    data.push(death)
    data.push(cases)
    console.log(data)
    break
  }
}
return data
```

2.6 As Alice, I want to be able to choose what types of data are (cases/death/vaccine) displayed on the graph to only focus on the data I am interested in

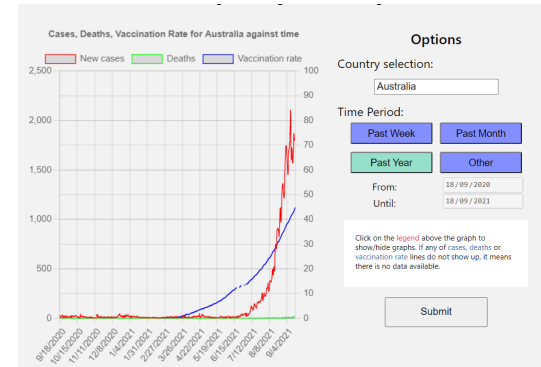
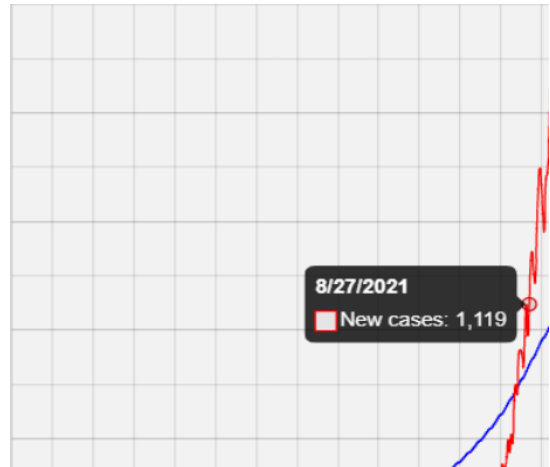
Test no.	Description	Action or input	Expect output	Actual output
007	Only display vaccination rates for France	Choose Thailand from the Country selection drop down, then click "Submit" button and cross out new cases and deaths.	Similar to this graph, but only the blue line should be present 	
008	Only display new cases for China	Choose China from the Country selection drop down, then click the "Submit" button and cross out vaccination rates and deaths.	Similar to this graph, but only the red line should be present 	

2.7 As Bob, I want the graph to dynamically update its title and legends as the data options changes

Test no.	Description	Action or input	Expect output	Actual output
009	<p>Display the graph characteristics (title, legend) to be updated according to the change of the data options dynamically depending on the user input.</p> <p>Given Australia is chosen as the country, the past month was chosen automatically.</p>	<ul style="list-style-type: none"> <li>- Choose a country (Australia) from the country selection drop down.</li> <li>- choosing the time period of the past month from the buttons provided under the graph options.</li> <li>-press the submit button.</li> </ul>	<ul style="list-style-type: none"> <li>-The graph title is updated at the top is for Australia.</li> <li>-past month is plotted on the time axis as past month from today's date.</li> </ul>	<p>A graph that updated according to the changes on the input options.</p> 
010	<p>Given Oman is the chosen country, and to display records from the last 5 days.</p>	<ul style="list-style-type: none"> <li>- choose a country (Oman) from the country selection drop down.</li> <li>-choose the “other” option and manipulate the date calendar to last 5 days.</li> <li>-press on the submit button.</li> </ul>	<ul style="list-style-type: none"> <li>-the graph updates according to the country chosen.</li> <li>-case and death axis are labeled with an adequate range within the graph.</li> <li>-time axis is updated to fit with the users date option to be for 5 days.</li> </ul>	



2.2 As Charlie, I want the graph to display its title, axis labels and legends to make it easier to understand the graph

Test no.	Description	Action or input	Expect output	Actual output
011	Displaying the graph with a title and well defined, for the purpose of users understanding graph content.	<ul style="list-style-type: none"> <li>-choose a country from the drop down list.</li> <li>-choose required dates.</li> <li>-choose what data is needed to be displayed on the graph through the legend.</li> </ul>	<ul style="list-style-type: none"> <li>-a graph with a clear and understandable title.</li> <li>-x and y axis clearly labeled with an adequate range.</li> </ul>	
012	Hovering a pointer over the line graph will also show the required information in a text format to increase user understanding of each graph.	<ul style="list-style-type: none"> <li>-choose a country from the drop down list.</li> <li>-choose required dates.</li> <li>-choose what data is needed to be displayed on the graph through the legend.</li> <li>-hover a pointer on a graph to see the accurate numbers with a date within their chosen date range.</li> </ul>	<ul style="list-style-type: none"> <li>-A small box displaying the date and required data depending on the line graph chosen to hover over.</li> </ul>	

2.9 As Alice, I want to be able to choose an option for the time period (e.g. last week, last week, last month, last year, other) so that I save time while choosing. M

Test no.	Description	Action or input	Expect output	Actual output
013	Fixed options for choosing time slots in button format and updating the graph accordingly.	Clicking on the required time slot.	A change in time axis of the graph to be updated according to the time slot chosen.	The time axis of the graph updates according to the time slot chosen.

Code Snippet for the above case:

```
// depending on which button pressed, prefills/displays different dates
switch (id) {
  case "weekButton":
    let weekBefore = new Date()
    weekBefore.setDate(today.getDate() - 7);

    start_date_ref.current.value = weekBefore.toISOString().split("T")[0];
    end_date_ref.current.value = todayString;

    break;
  case "monthButton":
    let monthBefore = new Date();
    monthBefore.setMonth(today.getMonth() - 1);

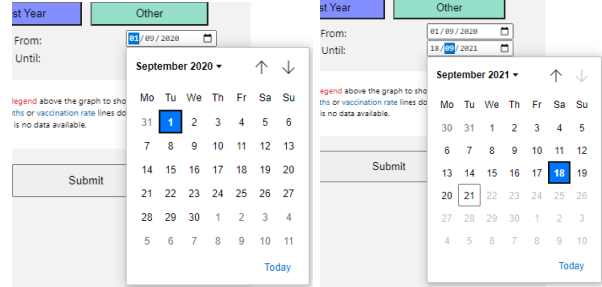
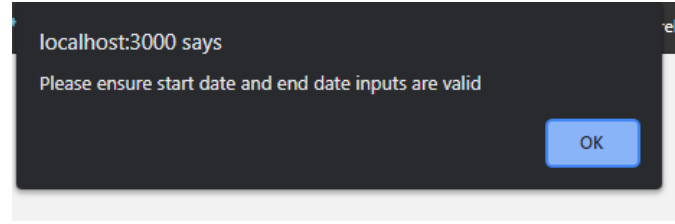
    start_date_ref.current.value = monthBefore.toISOString().split("T")[0];
    end_date_ref.current.value = todayString;

    break;
  case "yearButton":
    let yearBefore = new Date();
    yearBefore.setFullYear(today.getFullYear() - 1);

    start_date_ref.current.value = yearBefore.toISOString().split("T")[0];
    end_date_ref.current.value = todayString;

    break;
  default:
    break;
}
```

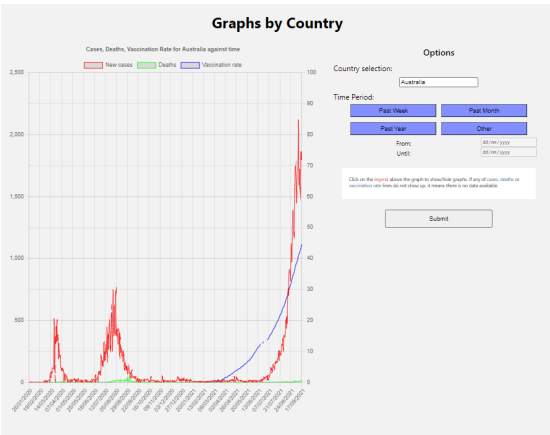
2.10 As Alice, after choosing the "Other" option, I want to be able to specify the upper bound and lower bound of time period using a calendar so that I can choose any date as the start and end M

Test no.	Description	Action or input	Expect output	Actual output
014	To select a specific date range, through a popup calendar, over which to see a selected country's graphed data.	After selecting 'Australia', the user clicks on the 'Other' button then inputs the date 01/09/2021 in the 'From' box and 18/09/2021 in the 'Until' box.	A popup calendar is displayed to the user upon clicking on the 'From' input box and also for the 'Until' box.	As expected, the below two calendar inputs are seen when actioned. 
015	An error alert for invalid date inputs; starting dates proceeding ending dates.	After selecting 'Australia', the user clicks on the 'Other' button then inputs the date 18/09/2021 in the 'From' box and 01/09/2021 in the 'Until' box.	An alert should be presented to the user upon clicking the 'Submit' button.	As expected, the below alert is seen when the invalid date entries are actioned. 

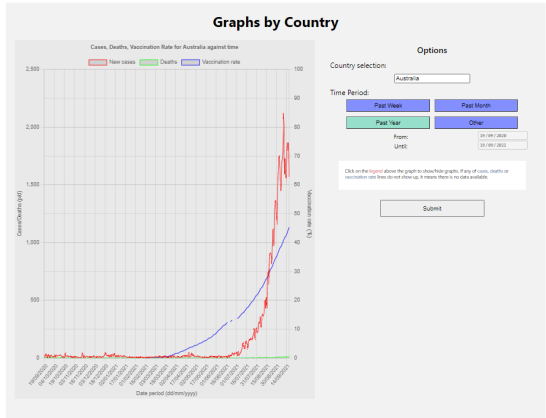
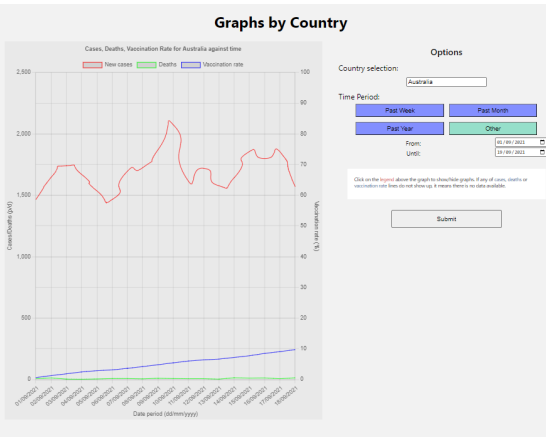
2.8 As Bob, I want different types of data to be color coded so that I can distinguish between them when they are displayed on the same graph

Test no.	Description	Action or input	Expect output	Actual output
016	A unique colour for the 'New Cases' graph and legend which persists with different country and date entries.	Clicking on submit after choosing the country.	The 'New Cases' data will be graphed with a red line and a corresponding red legend item will be displayed.	As expected.
017	A unique colour for the 'Vaccination Rate' graph and legend which persists with different country and date entries.	Clicking on submit after choosing the country and a valid date entry.	The 'Vaccination Rate' data will be graphed with a blue line and a corresponding blue legend item will be displayed.	As expected.
018	A unique colour for the 'Death Rate' graph and legend which persists with different country and date entries.	Clicking on submit after choosing the country and a valid date entry.	The 'Death Rate' data will be graphed with a green line and a corresponding green legend item will be displayed.	As expected.

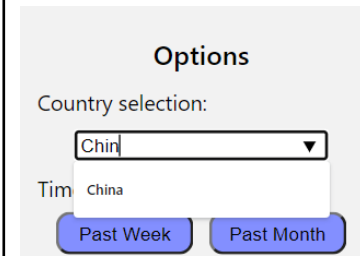
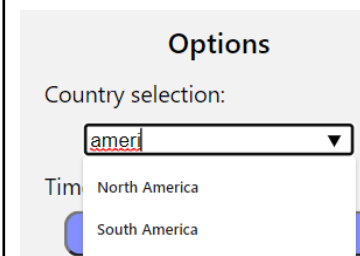
2.12 As Bob, I want to see a default country on the graph as the country that I am in so that I can obtain the information most relevant to me conveniently.




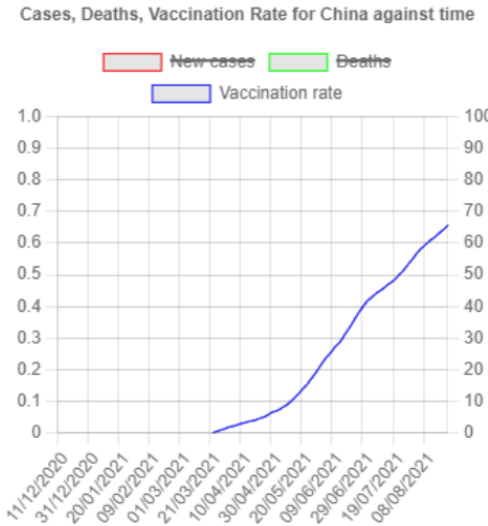
Test no.	Description	Action or input	Expect output	Actual output
019	Australia will be the default graph when the page is started	Access the web	All graph of feature 2 will display data for	

2.14 As Bob, after choosing the country and time period, I want to be able to click a button to see the graph, so that I can lock in my preferences about the graph.


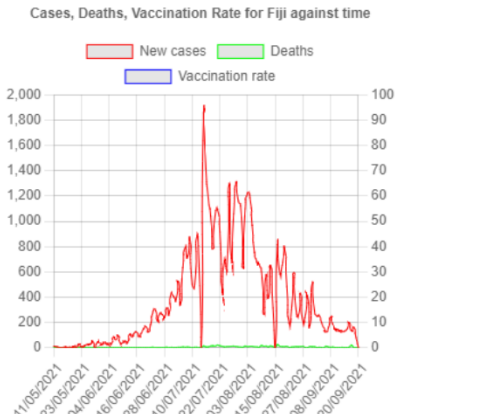
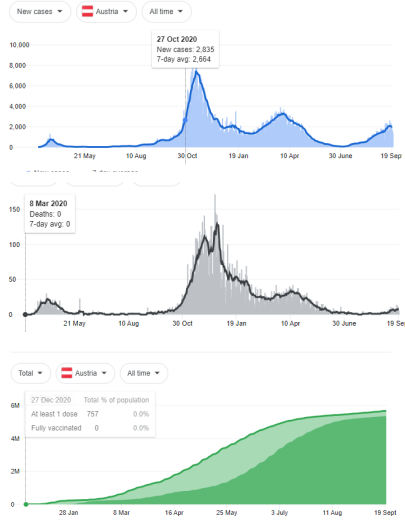
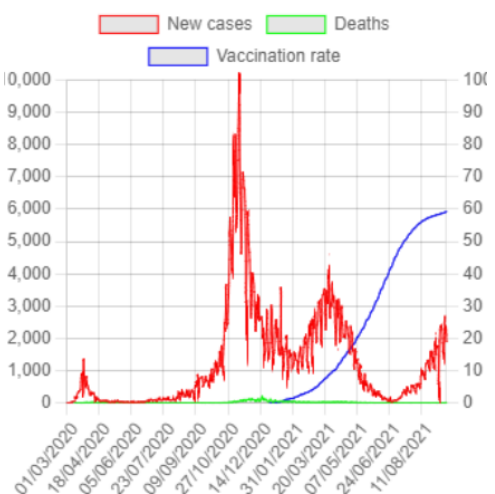
Test no.	Description	Action or input	Expect output	Actual output
020	Data for day range of last year	Click to button Past year on feature 2 and submit	Label of date change to 1 year before today and data display according to the date range	
021	Specify the date for start day and end day	Put date as 01/09/2021 until 19/09/2021	Label of date change to 01/09/2021 to 19/09/2021	

2.1 As Bob, I want to be able to choose a country from the drop-down menu to be able to only see the information related to the country I am interested in.

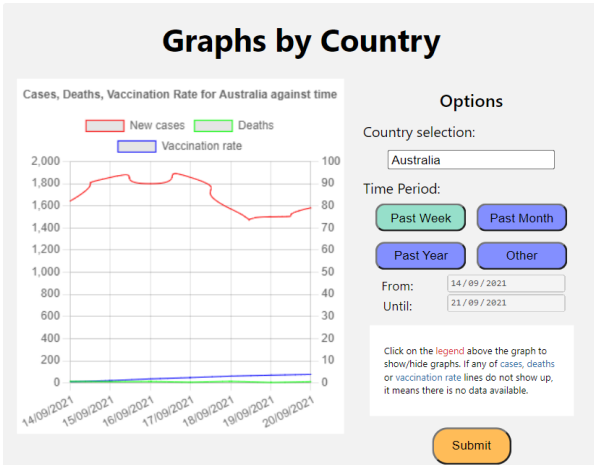
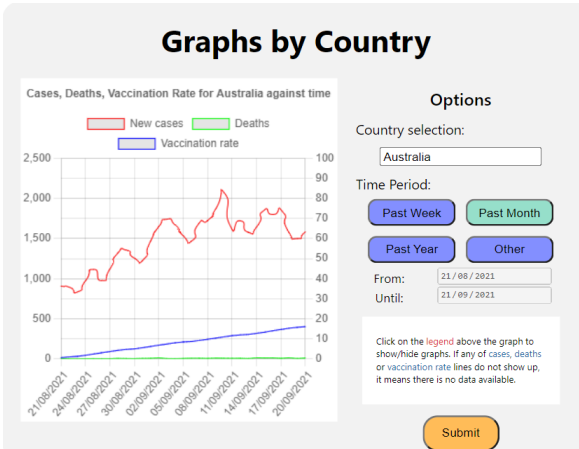
Test no.	Description	Action or input	Expect output	Actual output
022	See the country i want (China) in the dropdown list	Start typing in China	Drop down list will filter for any thing with the typed letters in it	
023	See the country I want (North America) from the country drop down menu	Start typing in america	Drop down list will filter for any thing with the typed letters in it	

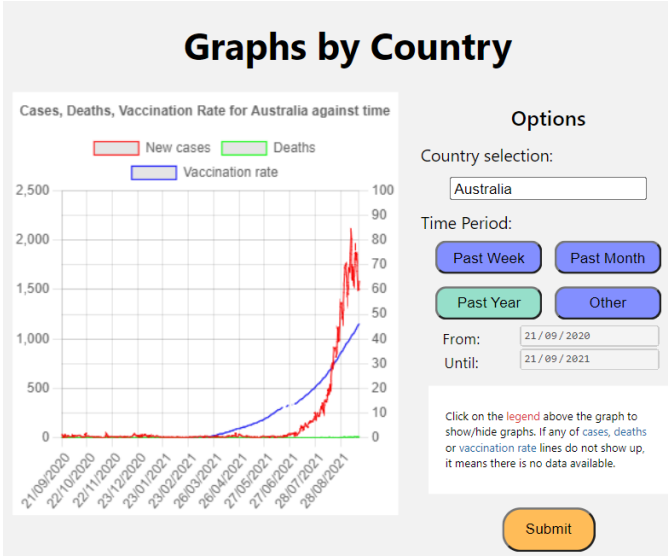
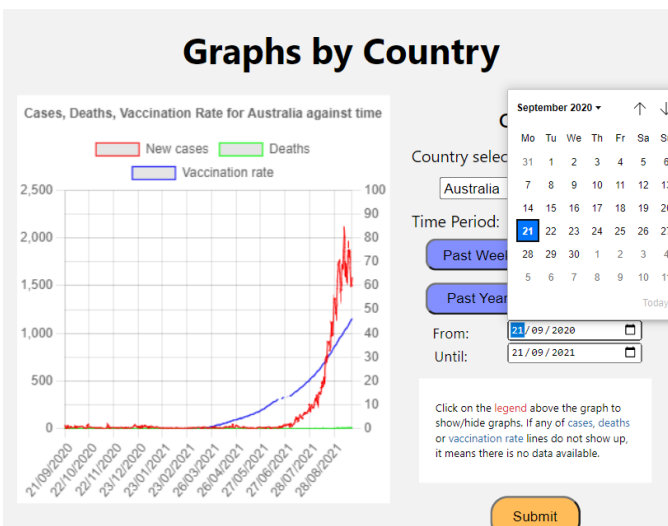
024	Display the cases graph for China	<ul style="list-style-type: none"> <li>- Choose China from the Country selection drop down</li> <li>- enter "Other" date from 11 Feb 2020 to 25 Aug 2021</li> <li>- click "Submit"</li> <li>- Leave only cases / rates on</li> </ul>	<p>A graph of similar shape to:</p>  <p>25 Aug 2021 New cases: 26 7-day avg: 27</p>	
025	Display the vaccination graph for China	<ul style="list-style-type: none"> <li>- Choose China from the Country selection drop down</li> <li>- enter "Other" date from 11 Dec 2020 to 28 Aug 2021</li> <li>- click "Submit"</li> <li>- Leave only vaccination rates on</li> </ul>	<p>A graph of similar shape to:</p>  <p>2 Jul 2021</p>	




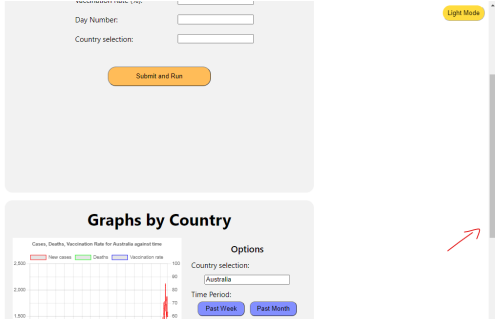
026	Displays graphs properly for Fiji	<ul style="list-style-type: none"> <li>- Choose Fiji from the Country selection drop down</li> <li>- enter "Other" date from 11 May 2021 to 20 sep 2021</li> <li>- click "Submit"</li> <li>- Leave Deaths and cases on</li> </ul>	<p>A graph being combination of the two:</p> 	<p>Correct since deaths is significantly less than cases per day</p> <p>Cases, Deaths, Vaccination Rate for Fiji against time</p> 
027	Displays all 3 graphs for Austria	<ul style="list-style-type: none"> <li>- Choose Austria from the Country selection drop down</li> <li>- enter "Other" date from 1 mar 2020 to 19 sep 2021</li> <li>- click "Submit"</li> <li>- Leave all graphs on</li> </ul>	<p>A combined graph with all 3:</p> 	<p>Cases, Deaths, Vaccination Rate for Austria against time</p> 

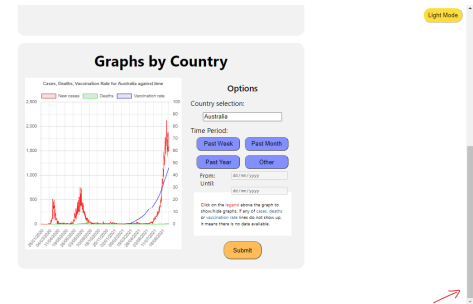
2.9 As Alice, I want to be able to choose an option for the time period (e.g. last week, last week, last month, last year, other) so that I save time while choosing

Test no.	Description	Action or input	Expect output	Actual output
028	When the Past week button is clicked, the date fields are automatically filled and the graph is for the week period of time	<ul style="list-style-type: none"> <li>- Press "Past Week" button</li> <li>- press "submit"</li> </ul>	Date input fields are filled with correct date from 7 days ago to today and graph x axis reflects it	
029	When the Past month button is clicked, the date fields are automatically filled and the graph is for the month period of time	<ul style="list-style-type: none"> <li>- Press "Past Month" button</li> <li>- press "Submit"</li> </ul>	Date input fields are filled with correct date from 1 month ago to today and graph x axis reflects it	

030	When the Past Year button is clicked, the date fields are automatically filled and the graph is for the year period of time	<ul style="list-style-type: none"> <li>- Press "Past Year" button</li> <li>- press "Submit"</li> </ul>	Date input fields are filled with correct date from 1 year ago to today and graph x axis reflects it	
031	When the Other button is clicked, there is option to pick any date in the past until today	- Press "Other" button	A date picker pops up with only dates available till the current day	

2.9 As Alice, I want to be able to choose an option for the time period (e.g. last week, last month, last year, other) so that I save time while choosing

Test no.	Description	Action or input	Expect output	Actual output
032	Night mode button is floating on the page, keeps at the same spot when user scrolls	- load page - scroll	- Button stays in place	<p>No scroll:</p>  <p>Scrolled to half:</p> 

				<p>Scrolled to bottom:</p> 
033	<p>Colour palette of whole app changes to darker theme when button pressed</p>	<ul style="list-style-type: none"> <li>- load page</li> <li>- press night mode button</li> </ul>	<p>Page becomes dark themed</p>	