

Trade-off between User Experience and Correctness/Accuracy:

1. We use DatePicker to select dates of interest. To avoid invalid date input, we disable manual typing and restrict the date range of DatePicker to the earliest and latest date found in the dataset.

The screenshot shows the 'T-30 Covid Explorer' application window. It has tabs for 'Task Zero', 'Table A', 'Table B', 'Table C', 'Chart A', 'Chart B', 'Chart C', and 'Report C'. The main content area is titled 'Cumulative Confirmed COVID-19 Cases (per 1M) by Country'. It features a 'Record From' date picker set to '1/1/2020'. Below the date picker is a calendar for January 2020, with the 1st highlighted. To the right of the calendar is a 'Select Regions' section with checkboxes for 'Country' and 'Continent', both of which are checked. Below this is a 'Sort By' dropdown menu set to 'By name'. A list of countries is displayed with checkboxes next to them: Afghanistan, Africa, Albania, Algeria, Andorra, Angola, Anguilla, and Antigua and Barbuda. At the bottom of the list are 'Select All' and 'Unselect All' buttons. A console window at the bottom left shows the message 'Display confirmed cases. [10:49:42]'.

2. When creating Table of Confirmed Cases, the reported numbers are based on the latest records found on or before the date of interest. The number will be "N/A" if no numbers are reported in the records of a location.

Number of Confirmed COVID-19 Cases as of July 20 2021		
Country	Total Cases	Total Cases (per 1M)
Afghanistan	142,414	3,658.36
Africa	6,296,294	4,696.63
Albania	132,740	46,125.51
Algeria	155,784	3,552.57
Andorra	14,379	186,099.78
Angola	41,061	1,249.34
Anguilla	N/A	N/A
Antigua and Barbuda	1,275	13,019.77

3. When creating Chart of Confirmed Cases per Million, the plot would naturally extend to the end date of interest based on the latest record. The plot would also zero extend to the start date of interest if no records are found. When extending the plot, user would get a warning message in the text area console.

