Issue #16796

Add Checkboxes to Legend Controlling Subplot Visibility
https://github.com/matplotlib/matplotlib/issues/16796

Feature Description

The feature is being able to initialize the legend with the ability to add interactive checkboxes that turn the visibility of the subplots on/off. Users can add the interactive checkboxes to the legend by directly calling the method make_legend_interactive(legend), where they pass in the legend that they want to make interactive. If it is set to be interactive, clicking the checkboxes will toggle the visibility of their respective elements on/off. Lastly, it will get all of the entries in the legend (including bars and lines).

Implementation

Code Organization

- Checkbox.py (New File)
  - This will be the GUI element objects for the checkboxes. One instance is created for every entry and will save its own state on/off, and it will know which object it is referencing and will store its own event handler, cid, so if the entry is deleted, the event can also be deleted.
    - It will inherit from Artist.
  - In the init function, an event handler will be created to respond to the users clicking on the checkbox.
  - Calls the respective set visibility methods of the artist elements.
  - make_legend_interactive(legend)
    - This method will be a part of checkbox to help make the specified legend interactive.

UML

```
┌─────────────────────┐   ┌─────────────────────┐   ┌─────────────────────────────┐
│     MouseEvent      │   │       Artist        │   │          Legend             │
├─────────────────────┤   ├─────────────────────┤   ├─────────────────────────────┤
│                     │   │                     │   │                             │
├─────────────────────┤   ├─────────────────────┤   ├─────────────────────────────┤
│                     │   │ draw()              │   │ __init__( ... , checkbox=False) │
│                     │   │ set_visible()       │   │                             │
└─────────────────────┘   └─────────────────────┘   └─────────────────────────────┘
```

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1..*

```
┌─────────────────────────────────────┐
│             CheckBox                 │
├─────────────────────────────────────┤
│ - state : Boolean                    │
│ - cid : int                          │
│ - connected_object : Artist          │
├─────────────────────────────────────┤
│ __init__()                           │
│ make_legend_interactive(legend)      │
└─────────────────────────────────────┘
```