

Issue #7869

Bug: Take text objects into account in legend auto positioning

<https://github.com/matplotlib/matplotlib/issues/7869>

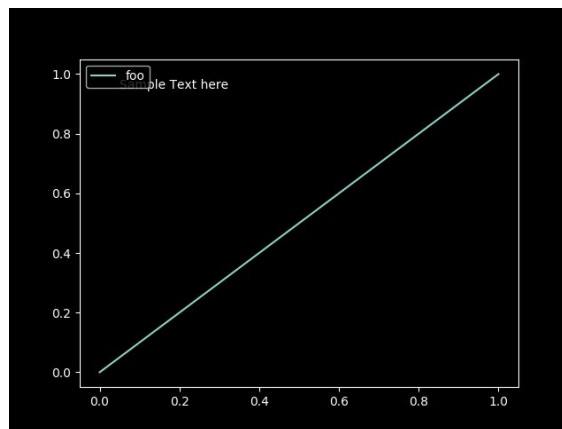
Description:

This reported issue is that when there is a legend added into a graph, it should be automatically positioned so that it does not obstruct the view of other elements in the graph. That behaviour is reportedly not the case for text objects, as when the legend is placed along with a text object, they both overlap each other. The change required is to make it so that the legend is automatically moved to a location which does not obstruct the view of the text, when the graph is rendered.

Reproduction Steps:

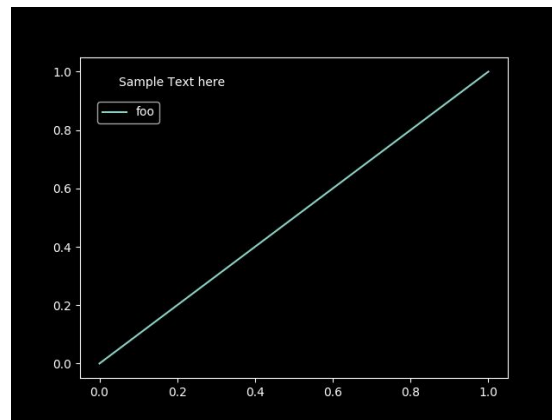
1. Install matplotlib packages with the following commands in the terminal
 - a. `python -m pip install -U pip`
 - b. `python -m pip install -U matplotlib`
2. Create a Python file
3. Download `legend_bug.py` and run the code. (which adds a graph, adds a legend, and some text)
 - a. Note: Reversing the ordering of the text object and legend does not fix the issue. The text and legend still overlap.
4. In terminal, run the Python file

→ Actual Result:



In the graph generated, it shows the legend overlapping the text.

→ **Expected Result:**



The graph is generated successfully with the legend and text objects not overlapping each other. The legend is positioned in an area that does not obstruct the view of the text.