

Issue #16389:

“Size” ignored if placed before fontproperties

Branch with fix: https://github.com/RiazCharania/matplotlib/tree/issue_16389

Description:

The bug fix is implemented in the branch listed above. The following is a technical breakdown of how and why the fix works as intended.

By implementing the bug fix, the `update(self, props)` function in `artist.py` will now check if “fontproperties” is an argument in `props`. If so, given that `props.items()` will return a list-like structure for which the update function iterates through, my fix will place the “fontproperties” argument at the head of the list, ensuring it gets processed first. This will ensure properties (such as “size”) set by creating a new default instance of `FontProperties` will not overwrite any previously set properties, as there will be none. Given that there can only one “fontproperties” argument, the rearrangement of the list only needs to be done once, with the rest of the list keeping its otherwise relative order. If no “fontproperties” argument is found in `props`, the update function will run unchanged.

Issues encountered:

No major issues were encountered. There was one hiccup with trying to understand why “axes” was processed separately from other arguments, but that was because “axes” needs to be updated through a different function.

Impact of the fix:

This change does not affect anything else in any way, because unless “fontproperties” in one of the given parameters, the update function will run identically as it did before.

Running unit tests:

1. Install the pytest package
 - a. `python -m pip install -U pip`
 - b. `python -m pip install -U pytest`
2. Clone the branch with the bug fix
 - `git clone https://github.com/RiazCharania/matplotlib --branch=issue_16389`
3. Change the terminal directory to the root of the cloned directory
 - `cd matplotlib`
4. Run the unit test
 - a. `python -m pytest`
`./lib/matplotlib/tests/test_artist.py::test_artist_update_fontproperties_priority`

Modified files:

- From the root of the cloned directory
 - `./lib/matplotlib/artist.py`
 - `./lib/matplotlib/tests/test_artist.py`