MATLAB Function Reference

**hold**
Retain current graph in figure

**Syntax**

```
hold on
hold off
hold all
hold
hold(axes_handle,...)
```

**Description**

The `hold` function determines whether new graphics objects are added to the graph or replace objects in the graph.

- `hold on` retains the current plot and certain axes properties so that subsequent graphing commands add to the existing graph.
- `hold off` resets axes properties to their defaults before drawing new plots. `hold off` is the default.
- `hold all` holds the plot and the current line color and line style so that subsequent plotting commands do not reset the `ColorOrder` and `LineStyleOrder` property values to the beginning of the list. Plotting commands continue cycling through the predefined colors and linestyles from where the last plot stopped in the list.
- `hold` toggles the `hold` state between adding to the graph and replacing the graph.
- `hold(axes_handle,...)` applies the `hold` to the axes identified by the handle `axes_handle`.

**Remarks**

Test the `hold` state using the `ishold` function.

Although the `hold` state is on, some axes properties change to accommodate additional graphics objects. For example, the axes' limits increase when the data requires them to do so.

The `hold` function sets the `NextPlot` property of the current figure and the
current axes. If several axes objects exist in a figure window, each axes has its own `hold` state. `hold` also creates an axes if one does not exist.

- `hold on` sets the `NextPlot` property of the current figure and axes to `add`.
- `hold off` sets the `NextPlot` property of the current axes to `replace`.
- `hold` toggles the `NextPlot` property between the `add` and `replace` states.

See Also

- `axis`, `cla`, `ishold`, `newplot`  

The `NextPlot` property of axes and figure graphics objects

Basic Plots and Graphs for related functions

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