**GUI Alternatives**

To add subplots to figures, click one of the New Subplot icons in the Figure Palette, and slide right to select an arrangement of subplots. For details, see Plotting Tools — Interactive Plotting in the MATLAB Graphics documentation.

**Syntax**

```matlab
h = subplot(m,n,p) or subplot(mnp)
```

Example:

```matlab
subplot(2,1,1), plot(income)
```

```matlab
subplot(2,1,2), plot(outgo)
```

plots income on the top half of the window and outgo on the bottom half. If the CurrentAxes is nested in a uipanel, the panel is used as the parent for the subplot instead of the current figure. The new axes object becomes the current axes.

**Description**

**subplot** divides the current figure into rectangular panes that are numbered rowwise. Each pane contains an axes object. Subsequent plots are output to the current pane.

```matlab
h = subplot(m,n,p) or subplot(mnp) breaks the figure window into an m-by-n matrix of small axes, selects the pth axes object for the current plot, and returns the axes handle. The axes are counted along the top row of the figure window, then the second row, etc. For example,

```matlab
subplot(2,1,1), plot(income)
```

```matlab
subplot(2,1,2), plot(outgo)
```

plots income on the top half of the window and outgo on the bottom half. If the CurrentAxes is nested in a uipanel, the panel is used as the parent for the subplot instead of the current figure. The new axes object becomes the current axes.
axes.

If \( p \) is a vector, it specifies an axes object having a position that covers all the subplot positions listed in \( p \).

```
subplot(m, n, p, 'replace'),
```

If the specified axes object already exists, delete it and create a new axes.

```
subplot(m, n, p, 'v6')
```
places the axes so that the plot boxes are aligned, but does not prevent the labels and ticks from overlapping. Saved subplots created with the v6 option are compatible with MATLAB 6.5 and earlier versions.

```
subplot(h)
```
makes the axes object with handle \( h \) current for subsequent plotting commands.

```
subplot('Position',[left bottom width height])
```
creates an axes at the position specified by a four-element vector. \( \text{left} \), \( \text{bottom} \), \( \text{width} \), and \( \text{height} \) are in normalized coordinates in the range from 0.0 to 1.0.

```
h = subplot( ...)
```
returns the handle to the new axes object.

### Backwards Compatibility

Use the subplot 'v6' option and save the figure with the 'v6' option when you want to be able to load a FIG-file containing subplots into MATLAB Version 6.5 or earlier.

### Remarks

If a subplot specification causes a new axes object to overlap any existing axes, then subplot deletes the existing axes object and uicontrol objects. However, if the subplot specification exactly matches the position of an existing axes object, then the matching axes object is not deleted and it becomes the current axes.

```
subplot(1,1,1) or clf
```
deletes all axes objects and returns to the default subplot(1,1,1) configuration.

You can omit the parentheses and specify `subplot` as

```
subplot mnp
```

where \( m \) refers to the row, \( n \) refers to the column, and \( p \) specifies the pane.

Be aware when creating subplots from scripts that the Position property of
subplots is not finalized until either

- A `drawnow` command is issued.
- MATLAB returns to await a user command.

That is, the value obtained for `subplot` $i$ by the command

```matlab
get(h(i), 'position')
```

will not be correct until the script refreshes the plot or exits.

**Special Case: `subplot(111)`**

The command `subplot(111)` is not identical in behavior to `subplot(1,1,1)` and exists only for compatibility with previous releases. This syntax does not immediately create an axes object, but instead sets up the figure so that the next graphics command executes a `clf` reset (deleting all figure children) and creates a new axes object in the default position. This syntax does not return a handle, so it is an error to specify a return argument. (MATLAB implements this behavior by setting the figure's `NextPlot` property to `replace`.)

**Examples**

To plot `income` in the top half of a figure and `outgo` in the bottom half,

```matlab
income = [3.2 4.1 5.0 5.6];
outgo = [2.5 4.0 3.35 4.9];
subplot(2,1,1); plot(income)
subplot(2,1,2); plot(outgo)
```
The following illustration shows four subplot regions and indicates the command used to create each.
The following combinations produce asymmetrical arrangements of subplots.

\begin{verbatim}
subplot(2,2,[1 3])
subplot(2,2,2)
subplot(2,2,4)
\end{verbatim}
You can also use the colon operator to specify multiple locations if they are in sequence.

```plaintext
subplot(2,2,1:2)
subplot(2,2,3)
subplot(2,2,4)
```
See Also

axes, cla, clf, figure, gca

Basic Plots and Graphs for more information