Manual for Package: auxiliar Revision 13M

Karl Kästner

September 2, 2021

Contents

| 1 | @Com | $\mathrm{pute_Map}$ | 1 |
|----------|---------|----------------------|----------|
| | 1.1 | Compute_Map | 1 |
| | 1.2 | key | 1 |
| 2 | auxilia | ar | 1 |
| | 2.1 | Container | 1 |
| | 2.2 | Expanding Double | 1 |
| 3 | adapto | or | 2 |
| | 3.1 | Constant | 2 |
| | 3.2 | GSD | 2 |
| | 3.3 | Keller | 2 |
| | 3.4 | MMesh | 2 |
| | 3.5 | SMesh | 2 |
| | 3.6 | Slg | 2 |
| 4 | auxilia | ur | 2 |
| | 4.1 | arabic2roman | 2 |
| | 4.2 | autocat | 2 |
| | 4.3 | bplus | 3 |
| | 4.4 | btimes | 3 |
| | 4.5 | centre_axis | 3 |
| | 4.6 | circshift_fractional | 3 |
| | 4.7 | | 3 |
| | 4.8 | colormap3 | 3 |
| | 4.9 | • | 3 |
| | 4.10 | | 3 |
| | 4.11 | 10 | 3 |
| | 4.12 | a v | 3 |

| | 4.13 | cummax |
|---|--------|-----------------------------|
| | 4.14 | cummean |
| | 4.15 | cumstd |
| | 4.16 | cumvar |
| | 4.17 | cvec |
| | 4.18 | diag3 |
| | 4.19 | diffn |
| | 4.20 | dspace |
| | 4.21 | field_range |
| | 4.22 | fieldnames_deep |
| | 4.23 | finite |
| | 4.24 | fixnan3 |
| | 4.25 | flat |
| | 4.26 | folder_name_from_parameters |
| | 4.27 | frac |
| | 4.28 | getfield_deep |
| | 4.29 | getout |
| | 4.30 | hash_str |
| | 4.31 | hashcode |
| | 4.32 | $imagesc_{-}$ |
| | 4.33 | innerspace |
| | 4.34 | int2byte |
| | | · |
| 5 | io/@Iı | niFile 6 |
| | 5.1 | IniFile |
| 0 | • | |
| 6 | io | 6 |
| | 6.1 | Stream |
| | 6.2 | catXML |
| | 6.3 | csv2cell |
| | 6.4 | filewrite |
| 7 | io/net | cat 6 |
| | 7.1 | nc |
| | 7.2 | nc_read_row |
| | 7.3 | nc_read_sequential |
| | 7.4 | nc_read_sequential_column |
| | 7.5 | nc_readall |
| | 7.6 | nc_writeall |
| _ | | |
| 8 | io | 7 |
| | 8.1 | parseXML |
| | 8.2 | printdef |
| | 8.3 | printf |

| | 8.4 | save | 7 |
|----|---------------|------------|----|
| | 8.5 | xml2struct | 8 |
| 9 | auxilia | ır. | 8 |
| • | 9.1 | | 8 |
| | 9.2 | 1 | 8 |
| | 9.3 | 1 1 | 8 |
| | 9.4 | | 8 |
| | 9.5 | v | 8 |
| | 9.6 | | 8 |
| | 9.7 | | 8 |
| | 9.8 | | 8 |
| | 9.9 | | 9 |
| | 9.10 | | 9 |
| | 9.11 | 1 | 9 |
| | 9.12 | 1 | 9 |
| | 9.13 | 81 | 9 |
| | 9.14 | 9 | 9 |
| | 9.14 | | 9 |
| | 9.16 | | 9 |
| | 9.17 | | 9 |
| | 9.17 | | 0. |
| | 9.19 | | 0 |
| | 9.19 | objecty | U |
| 10 | plot | 1 | 0 |
| | 10.1 | addx | 0 |
| | 10.2 | | 0 |
| | 10.3 | v . | 0 |
| | 10.4 | • • | 0 |
| | 10.5 | | 0 |
| | 10.6 | | 0 |
| | 10.7 | - | 0 |
| | 10.8 | | 1 |
| | 10.9 | | 1 |
| | 10.10 | 1 | 1 |
| | 10.11 | * | 1 |
| | 10.12 | 1 | 1 |
| | 10.13 | | 1 |
| | 10.14 | 9 | 1 |
| | 10.14 10.15 | 1 0 | 1 |
| | 10.16 | | 1 |
| | 10.10 10.17 | v | 1 |
| | 10.17 | • | 2 |
| | 10.19 | | 2 |
| | | | |

| 10.20 | errorarea2 | 12 |
|-------|-----------------|----|
| 10.21 | errorbar_man | 12 |
| 10.22 | errorlines | 12 |
| 10.23 | fetchsubplot | 12 |
| 10.24 | fillmarker | 12 |
| 10.25 | get_coordinates | 12 |
| 10.26 | hatch | 12 |
| 10.27 | hline | 12 |
| 10.28 | hold_color | 13 |
| 10.29 | | 13 |
| 10.30 | hourtick | 13 |
| 10.31 | interpplot | 13 |
| 10.32 | legendtitle | 13 |
| 10.33 | | 13 |
| 10.34 | monthspace | 13 |
| 10.35 | monthtick | 13 |
| 10.36 | mycolourmap | 14 |
| 10.37 | | 14 |
| 10.38 | | 14 |
| 10.39 | nmcolormap | 14 |
| 10.40 | patch_man | 14 |
| 10.41 | pdfprint | 14 |
| 10.42 | percenttick | 14 |
| 10.43 | plot2svg | 14 |
| 10.44 | plot_ellipse | 15 |
| 10.45 | | 16 |
| 10.46 | plotshaded | 16 |
| 10.47 | ploty4 | 16 |
| 10.48 | plotyyy | 16 |
| 10.49 | quadsurf | 16 |
| 10.50 | quadsurf2 | 16 |
| 10.51 | quadsurf3 | 16 |
| 10.52 | quiver3_man | 16 |
| 10.53 | | 16 |
| 10.54 | quiver_man2 | 16 |
| 10.55 | quiver_man3 | 17 |
| 10.56 | rectangles | 17 |
| 10.57 | scaleplot | 17 |
| 10.58 | setfontsize | 17 |
| 10.59 | shade_night | 17 |
| 10.60 | splitfigure | 17 |
| 10.61 | | 17 |
| 10.62 | velplot | 17 |
| 10.63 | vline | 17 |

| | 10.64 | $vline_man \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$ | 17 |
|----|---------|--|----|
| | 10.65 | weekspace | 18 |
| | 10.66 | weektick | 18 |
| | 10.67 | xtick | 18 |
| | 10.68 | xticklabel | 18 |
| | 10.69 | ytick | 18 |
| | 10.70 | yticklabel | 18 |
| | | | |
| 11 | auxilia | r | 18 |
| | 11.1 | relpos | 18 |
| | 11.2 | $reshape_conditional $ | 18 |
| | 11.3 | ${\rm right diff} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$ | 18 |
| | 11.4 | $rmfield_deep \ \dots $ | 19 |
| | 11.5 | $rmfield_optional \ \ldots \ \ldots \ \ldots \ \ldots \ \ldots \ \ldots$ | 19 |
| | 11.6 | rvec | 19 |
| | 11.7 | select | 19 |
| | 11.8 | $setfield_behind \ . \ . \ . \ . \ . \ . \ . \ . \ . \ $ | 19 |
| | 11.9 | $setfield_deep \dots $ | 19 |
| | 11.10 | setfields | 19 |
| | 11.11 | sign2str | 19 |
| | 11.12 | signs | 19 |
| | 11.13 | simplifyignore | 19 |
| | 11.14 | $str_cell_reverse_index $ | 20 |
| | | | |
| 12 | strings | | 20 |
| | 12.1 | chomp | 20 |
| | 12.2 | chomp1 | 20 |
| | 12.3 | num2str_log10 | 20 |
| | 12.4 | num2str_power_10 | 20 |
| | 12.5 | strjoin | 20 |
| | 12.6 | strsplit_man | 20 |
| | 12.7 | suffix | 20 |
| 19 | auxilia | | 20 |
| 13 | 13.1 | struct2obj | 20 |
| | 13.1 | struct_avg | 21 |
| | 13.3 | | 21 |
| | 13.4 | struct_flat | 21 |
| | 13.4 | | 21 |
| | 13.6 | structfun_deep | 21 |
| | 13.0 | sub2ind_man | |
| | | subsall | 21 |
| | 13.8 | swap | 21 |
| 14 | system | 1 | 21 |

| 14.1 14.2 14.3 14.4 14.5 14.6 14.7 | alloc basename | 21 22 22 22 22 22 22 |
|---|-----------------|--|
| 14.7 14.8 15 auxilia 15.1 15.2 15.3 | tail_str | 22 22 22 22 |
| 15.3 15.4 15.5 | unwrap_periodic | 23 |

$1 \quad @Compute_Map$

1.1 Compute_Map

container class to store multiple scenarios

1.2 key

```
key for storing a scenario
function [key obj] = key(obj,varargin)
```

2 auxiliar

2.1 Container

${\bf 2.2 \quad Expanding_Double}$

3 adaptor

adators for backward compatibility for renamed files

3.1 Constant

3.2 GSD

3.3 Keller

3.4 MMesh

3.5 SMesh

3.6 Slg

4 auxiliar

4.1 arabic2roman

4.2 autocat

| 4.5 | centre_axis |
|------|---|
| 4.6 | $circshift_fractional$ |
| 4.7 | $\operatorname{cmap_rolling}$ |
| 4.8 | colormap3 |
| 4.9 | ${\bf colormap_byr}$ |
| 4.10 | $\operatorname{copy_fields}$ |
| 4.11 | $copyfields_deep$ |
| 4.12 | $\operatorname{count}_{\operatorname{-}\!\operatorname{occurence}}$ |

4.3 bplus

4.4 btimes

| 4.15 | cumstd |
|------|--------------------------|
| 4.16 | cumvar |
| 4.17 | cvec |
| 4.18 | m diag3 |
| 4.19 | diffn |
| 4.20 | dspace |
| 4.21 | ${ m field_range}$ |
| 4.22 | ${\it fieldnames_deep}$ |

4.13 cummax

4.14 cummean

| 4.23 | finite |
|------|----------------------------------|
| 4.24 | fixnan3 |
| 4.25 | flat |
| 4.26 | $folder_name_from_parameters$ |
| 4.27 | frac |
| 4.28 | $getfield_deep$ |
| 4.29 | getout |
| 4.30 | hash_str |
| 4.31 | hashcode |
| 4.32 | $imagesc_{-}$ |

4.33 innerspace
4.34 int2byte
5 io/@IniFile
5.1 IniFile
6 io
6.1 Stream
6.2 catXML

6.3 csv2cell

6.4 filewrite

7.1 nc

| 7.2 | nc_read_row |
|-----|--------------------------------|
| 7.3 | $nc_read_sequential$ |
| 7.4 | $nc_read_sequential_column$ |
| 7.5 | nc_readall |
| 7.6 | $\operatorname{nc_writeall}$ |
| 8 | io |
| | parseXML |
| 8.2 | printdef |
| 8.3 | printf |
| | |

 $8.4 \quad save_{-}$

| 9 | auxiliar |
|-----|-------------------------|
| 9.1 | $is field_deep$ |
| 9.2 | isfieldorprop |
| 9.3 | $\mathbf{isprop_deep}$ |
| 9.4 | issym |
| 9.5 | iterate_cell |
| 9.6 | jmemory |
| 9.7 | leftdiff |

9.8 leftmean

8.5 xml2struct

| 9.9 limits |
|--|
| 9.10 linspace_man |
| 9.11 linspace_man2 |
| $9.12 { m logspace_trimmed}$ |
| $9.13~{ m matlab_messages}$ |
| 9.14 maxid |
| <pre>index of maximum if value is not required (e.g. use in other functions such as accummarray)</pre> |
| 9.15 memsize |
| $9.16 \mathrm{mlint_all}$ |
| 9.17 myhot |

| 9.18 | none |
|------|-----------------------------------|
| 9.19 | objcopy |
| 10 | plot |
| 10.1 | addx |
| | |
| 10.2 | addy |
| | |
| 10.3 | $adjust_quiver_arrowhead_size$ |
| | |
| 10.4 | area_man |
| | |
| 10.5 | arrow |
| 100 | |
| 10.6 | axis_equal_man |
| | |

10.7 candlestick_man

10.8 circle 10.9 cmap 10.10 colormap_man $10.11 \quad colormap_man2$ 10.12 colormap_man_old 10.13 columnlegend 10.14 copyaxes 10.15 datetick_man

10.16 daytick

10.17 dcolormap

10.18 dots

10.19 errorarea

10.20 errorarea2

 $10.21 \quad errorbar_man$

10.22 errorlines

10.23 fetchsubplot

10.24 fillmarker

10.25 get_coordinates

10.26 hatch

10.27 hline

- $10.28 \quad hold_color$
- 10.29 hourspace
- 10.30 hourtick
- 10.31 interpplot
- 10.32 legendtitle

10.33 line_fewer_markers

find marker spec in varargin and remove it; extract special params: ${\tt LockOnMax,Spacing}$

input size check

- a) once only the line with all points with the style
- b) last time the markers, using fewer points with style
- c) once with a visible handle, only the first point, using the complete style you specified
- 'x' -> marker delta-x constant; 'curve' : spacing constant along the curve length

10.34 monthspace

10.35 monthtick

```
10.36 mycolourmap
10.37
       namedfigure
10.38 nansurf
10.39 nmcolormap
10.40 patch_man
10.41 pdfprint
10.42 percenttick
10.43 plot2svg
" height="100%%" viewBox="0 0 %0.3f %0.3f" ',paperpos(3),paperpos(4)
   );
          fprintf(fid,' <filter x="\%0.3f\%" y="\%0.3f\%" width="\%0.3
             f\%" height="%0.3f\%" id="%s">\n', 0, 0, 100, 100,
             filterId);
             fprintf(fid,' <filter x="%0.3f%%" y="%0.3f%%" width
             ="%0.3f%%" height="%0.3f%%" id="%s">\n', -(offset *
```

100), -(offset * 100), 100 + (offset * 200), 100 + (

```
Octave keeps s, d, p and h in the HandleGraphics object, for the
square, diamond, pentagram, and hexagram markers, respectively
-- Jakob Malm
Octave keeps s, d, p and h in the HandleGraphics object, for the
square, diamond, pentagram, and hexagram markers, respectively
```

10.44 plot_ellipse

10.45 plot_style

10.46 plotshaded

10.47 ploty4

10.48 plotyyy

10.49 quadsurf

10.50 quadsurf2

10.51 quadsurf3

10.52 quiver3_man

10.53 quiver_man

10.54 quiver_man2

 $10.55 \quad quiver_man3$

10.56 rectangles

10.57 scaleplot

10.58 setfontsize

10.59 shade_night

10.60 splitfigure

10.61 turtle

10.62 velplot

10.63 vline

10.64 vline_man

10.65 weekspace 10.66 weektick

10.67 xtick

10.68 xticklabel

10.69 ytick

10.70 yticklabel

11 auxiliar

11.1 relpos

11.2 reshape_conditional

11.3 rightdiff

| 11.6 | rvec |
|-------|---|
| 11.7 | select |
| 11.8 | $\mathbf{setfield}_{\mathtt{-}}\mathbf{behind}$ |
| 11.9 | ${\bf setfield_deep}$ |
| 11.10 | setfields |
| 11.11 | ${f sign2str}$ |
| 11.12 | $_{ m signs}$ |
| | |

11.13 simplifyignore

 $11.4 \quad rmfield_deep$

11.5

 $\operatorname{rmfield}$ optional

$11.14 ext{ str_cell_reverse_index}$ strings 1212.1 chomp 12.2 chomp1 $12.3 \quad num2str_log10$ $12.4 \quad num2str_power_10$ 12.5 strjoin $12.6 \quad strsplit_man$ **12.7** suffix **13** auxiliar 13.1 struct2obj

| 13.3 | \mathbf{struct} _flat |
|------|----------------------------------|
| 13.4 | ${f structcopy_deep}$ |
| 13.5 | $\operatorname{structfun_deep}$ |
| 13.6 | sub2ind_man |
| 13.7 | subsall |
| 13.8 | swap |
| 14 | system |

emulate POSIX and BASH functions

14.1 alloc

14.2 basename

 $13.2 \quad struct_avg$

| 14.4 | dirname |
|------|----------------------------|
| 14.5 | head |
| 14.6 | ${ m head_str}$ |
| 14.7 | tail |
| 14.8 | $	ail_{	ext{str}}$ |
| - L | •1• |
| | auxiliar |
| 15.1 | toInt32 |
| 15.2 | ${\bf unique_columnwise}$ |
| 15.3 | $unpack_struct$ |

14.3 cbrt

- $15.4 \quad unwrap_periodic$
- 15.5 zoomaxis