

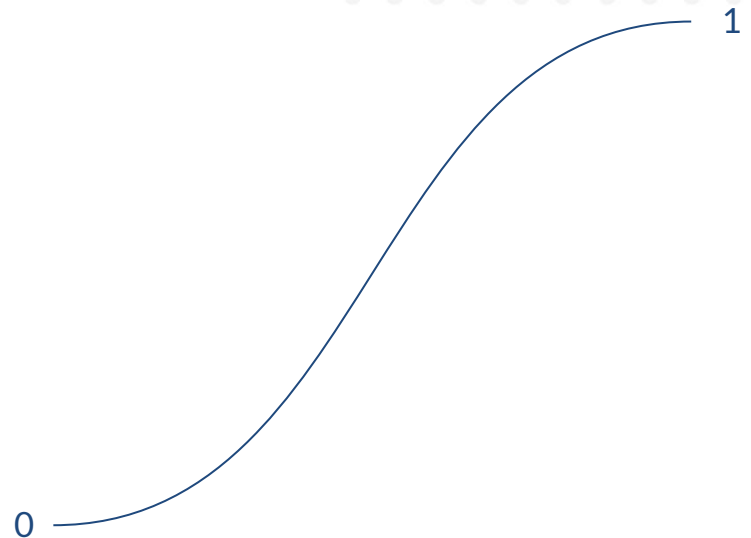
Fuzzy logic on GNU/Linux Operative System

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What is fuzzy logic?

Fuzzy logic is an extension of classical logic that allows us to handle truth values that are not just 0 or 1 (true or false), but values intermediate between the two.

Lotfi Zadeh, 1965

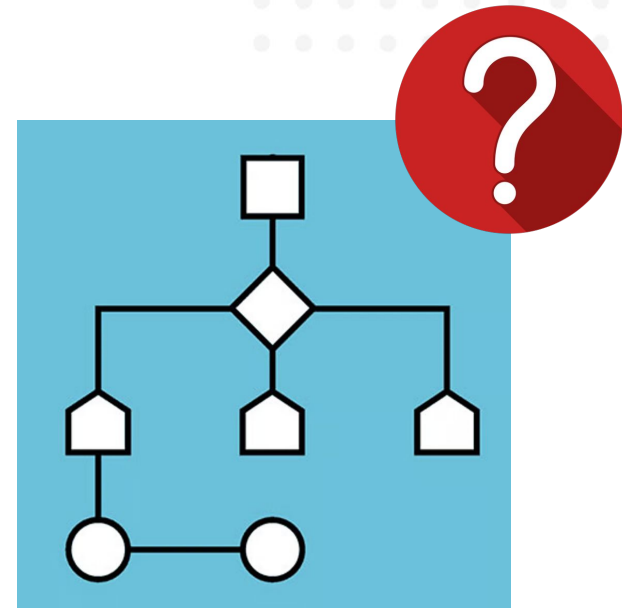


What does it work for?

It is used when we need to model complex situations where decisions are not simply black and white.

It allows decisions to be made in uncertain situations, which is useful in control systems, artificial intelligence and machine learning.

Management of processes, resources and automatic adjustments according to current conditions.



Common hardware utilities for GNU/Linux OS that uses Fuzzy logic

Libprocess

Ref

<https://github.com/3rdparty/libprocess>



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Implementation examples of Libprocess

lm-sensors

lm-sensors implements libprocess to get the temperature of the PC then identify if there's some over warm, also it gets other measures like CPU usage, RAM usage or energy consumption, etc

Ref:

<https://github.com/lm-sensors/lm-sensors>

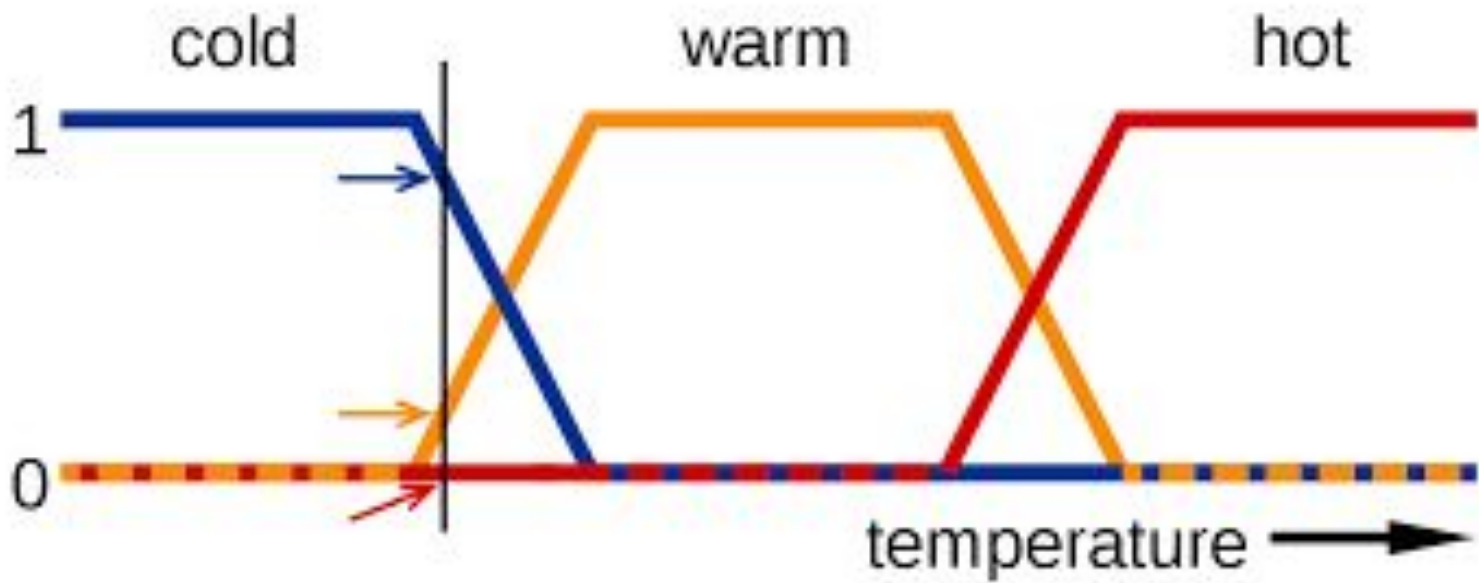
Fancontrol

This package implements libprocess for getting temperature measurement, then turning on fans if that's required, checking power and energy consumption over the fans velocity in the cooling system

Ref:

<https://packages.debian.org/search?keywords=fancontrol>

How does it work?



Labeling scale implementation for a widget

```

1      ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
2
3      [module/temperature]
4      type = internal/temperature
5
6      thermal-zone = 0
7      warn-temperature = 60
8
9      format = <label>
10     format-warn = <label-warn>
11     format-warn-background = ${colors.background}
12
13     label = 雙 %temperature-c%
14     label-warn = 田 %temperature-c%
15     label-warn-underline = ${colors.line_color_alert}
16     format-warn-padding = 2
    
```



Ref <https://github.com/AndresMpa/dotfiles>

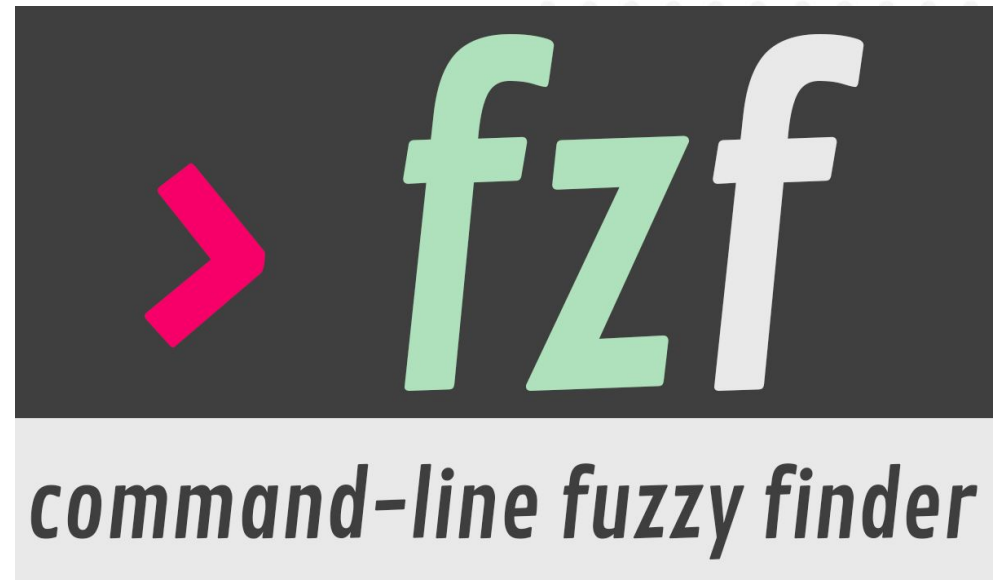
Fuzzy logic on GNU/Linux terminal

F - Fuzzy - Finder/Search

FZF is a fuzzy finder implemented in different OS, packages, command line, editors, etc. It works to make fuzzy search using a given text.

Ref

<https://github.com/junegunn/fzf>



Brightness control script

```
test.bash
1  #!/bin/bash
2  luz_actual=$(cat /sys/class/backlight/intel_backlight/brightness)
3  if [[ $luz_actual -lt 1000 ]]; then
4      # Luz baja
5      brillo=0.5
6  elif [[ $luz_actual -lt 3000 ]]; then
7      # Luz media
8      brillo=0.7
9  else
10     # Luz alta
11     brillo=1.0
12 fi
13 xrandr --output eDP-1 --brightness $brillo
```

Ref <https://github.com/junegunn/fzf>

Regarding the permission system

dotfiles / etc / systemd / system / brightness-permission.service r



AndresMpa Quick fix

Code

Blame

12 lines (10 loc) · 307 Bytes

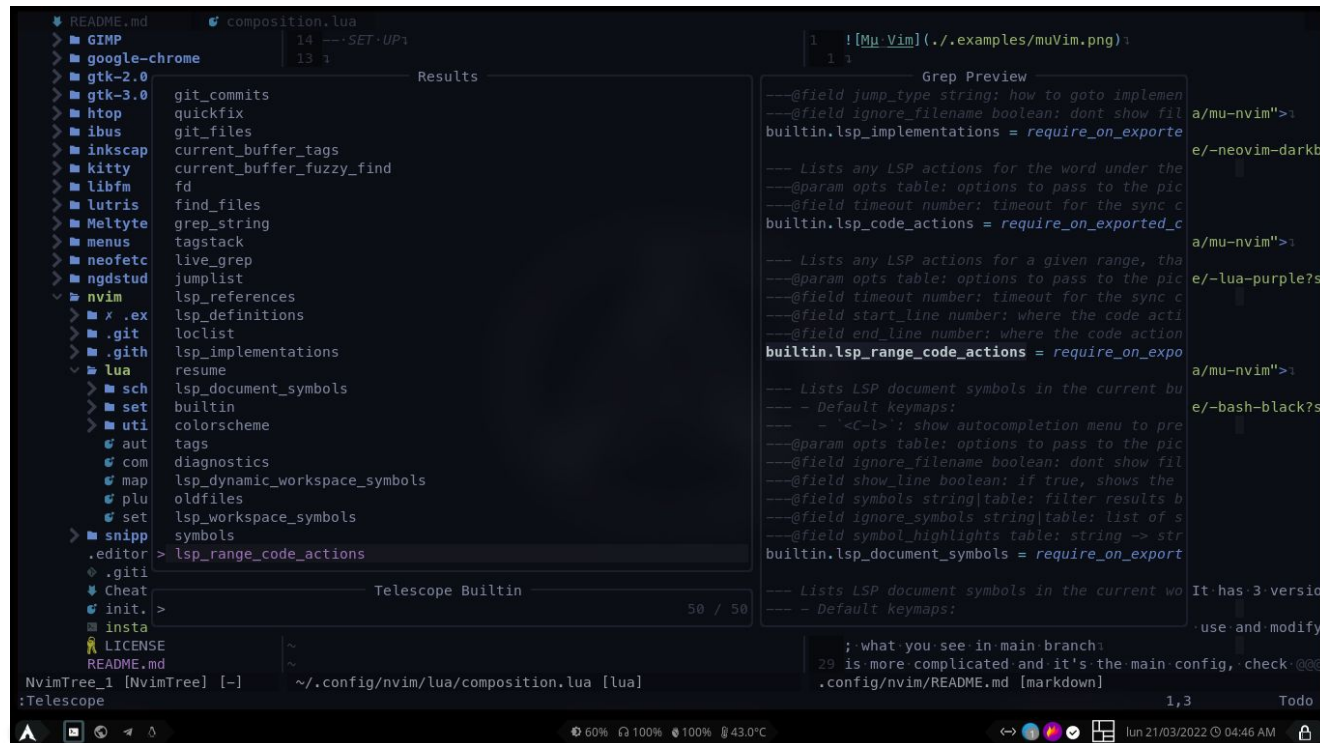
```

1  [Unit]
2  Description=Set light writable for every user, place this file at /etc/systemd/system
3  Before=nodered.service
4
5  [Service]
6  User=root
7  Type=oneshot
8  ExecStart=/bin/bash -c "/bin/chmod a+w /sys/class/backlight/amdgpu_bl0/brightness"
9
10 [Install]
11 Alias=brightness-permission.service
12 WantedBy=multi-user.target

1  #! /bin/bash
2
3  brightness=$(cat /sys/class/backlight/amdgpu_bl0/brightness)
4  brightness=$(expr $brightness + 10)
5  echo $brightness > /sys/class/backlight/amdgpu_bl0/brightness

#
# Brightness
#
XF86MonBrightnessDown
    brightnessctl -d amdgpu_bl0 s 10-
XF86MonBrightnessUp
    brightnessctl -d amdgpu_bl0 s 10+
```

Other fuzzy search implementation regarding different context



```

1  ! [Mu_Vim] (./examples/muVim.png):
1  ?

---@field jump_type string: how to goto implemen
---@field ignore_filename boolean: dont show fil
builtin.lsp_implementation = require_on_expor
e/-neovim-darkb

--- Lists any LSP actions for the word under the
---@param opts table: options to pass to the pic
---@field timeout number: timeout for the sync c
builtin.lsp_code_actions = require_on_exported_c
a/mu-nvim">:
e/-lua-purple?s

--- Lists LSP actions for a given range, tha
---@param opts table: options to pass to the pic
---@field timeout number: timeout for the sync c
---@field start_line number: where the code acti
---@field end_line number: where the code action
builtin.lsp_range_code_actions = require_on_expo
a/mu-nvim">:
e/-bash-black?s

--- Lists LSP document symbols in the current bu
--- - Default keymaps:
--- - <C-l>: show autocompletion menu to pre
---@param opts table: options to pass to the pic
---@field ignore_filename boolean: dont show fil
---@field show_line boolean: if true, shows the
---@field symbols string|table: filter results b
---@field ignore_symbols string|table: list of s
---@field symbol_highlights table: string -> str
builtin.lsp_document_symbols = require_on_export
It has:3 versio
--- - Default keymaps:
--- use and modify

; what you see in main branch:
29 is more complicated and it's the main config, check @@@
.config/nvim/README.md [markdown]
1,3 Todo

```

Thank you

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