

# Dev Tools

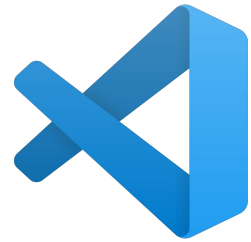
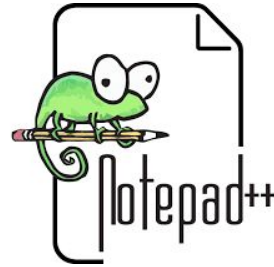
speakers: Meir Mukushev, Ersain Dinmukhamed

# Coding env.

IDE & text editors

# Text editors

With text editor you can just write or modify your code or text



GROUP 1

- \* main.cpp — Users/.../sa
- \* USBCore.cpp
- \* wiring\_digital.c

GROUP 2

- \* GDB Disassembly

GROUP 3

- \* GDB Callstack

GROUP 4

- \* GDB Breakpoints
- \* GDB Threads
- \* GDB Console
- \* GDB Session

FOLDERS

- sublime-text
  - .pioenvs
  - lib
  - src
    - main.cpp
    - .gitignore
    - platformio.ini
    - platformio.sublime

mal USBCore.cpp x wiring\_digital.c x

47

// Enable pull level (cf '22.6.3.2 I

48

PORT->Group[g\_APinDescription[ulPin]

49

break ;

50

51

case INPUT\_PULLDOWN:

52

// Set pin to input mode with pull-d

53

PORT->Group[g\_APinDescription[ulPin]

54

PORT->Group[g\_APinDescription[ulPin]

55

56

// Enable pull level (cf '22.6.3.2 I

57

PORT->Group[g\_APinDescription[ulPin]

58

break ;

59

60

case OUTPUT:

61

// enable input, to support reading

62

PORT->Group[g\_APinDescription[ulPin]

63

64

// Set pin to output mode

65

PORT->Group[g\_APinDescription[ulPin]

66

break ;

67

68

default:

69

// do nothing

70

break ;

71

}

72

}

73

74

void digitalWrite( uint32\_t ulPin, uint32\_

75

{

76

// Handle the case the pin isn't usable

77

if ( g\_APinDescription[ulPin].ulPinType

78

{

79

return ;

80

}

81

}

GDB Disassembly x

1

/Users/ikravets/.platformio/packages/framev

2

0x00004c86: movs r4, #1

3

0x00004c88: adds r6, r4, #0

4

0x00004c8a: lsls r6, r5

5

0x00004c8c: str r6, [r3, #4]

6

/Users/ikravets/.platformio/packages/framev

7

/Users/ikravets/.platformio/packages/framev

8

/Users/ikravets/.platformio/packages/framev

9

0x00004c8e: str r6, [r3, #20]

10

/Users/ikravets/.platformio/packages/framev

11

0x00004c90: b.n 0x4cc0 <pinMode+220>

12

/Users/ikravets/.platformio/packages/framev

13

/Users/ikravets/.platformio/packages/framev

14

/Users/ikravets/.platformio/packages/framev

15

/Users/ikravets/.platformio/packages/framev

16

0x00004c92: ldr r3, [pc, #48] ; (0x4cc4

17

0x00004c94: lsls r2, r0, #1

18

0x00004c96: adds r1, r2, r0

19

0x00004c98: lsls r1, r1, #3

20

0x00004c9a: ldrsb r5, [r3, r1]

21

0x00004c9c: adds r1, r2, r0

22

0x00004c9e: lsls r1, r1, #3

23

0x00004ca0: adds r1, r3, r1

24

0x00004ca2: ldr r4, [r1, #4]

25

0x00004ca4: lsls r1, r5, #7

26

0x00004ca6: ldr r5, [pc, #32] ; (0x4cc8

27

0x00004ca8: adds r1, r1, r5

28

0x00004caa: adds r4, r1, r4

29

0x00004cac: adds r4, #64 ; 0x40

30

0x00004cae: movs r5, #2

31

0x00004cb0: strb r5, [r4, #0]

32

/Users/ikravets/.platformio/packages/framev

33

/Users/ikravets/.platformio/packages/framev

34

/Users/ikravets/.platformio/packages/framev

GDB Callstack x GDB Breakpoints x

1

pinMode(ulPin = 31, ulMode = 1,);

2

USBDeviceClass::init(this = 0x200006b0 <

3

USBDevice>, this@entry = 0x200006b0 <

4

main();

GDB Threads x GDB Console x

1

001 - stopped - pinMode(ulPin = 31,

2

ulMode = 1);

GDB

Line 62, Column 12

1 misspelled word

Spaces: 2

C

Line 65, Column 15

1 misspelled word

Spaces: 5

C

GDB

# IDE

IDE(Integrated development environment). You can do a lot of things with it



tox.ini x Car.py x Solver.py

setup.py x

```
8 def say_state(self):
9     print("I'm going {} kph!".format(se
10
11 def accelerate(self):
12     self.speed += 5
13
14 def brake(self):
15     if self.speed < 5:
```

Car > say\_state()

Car

- Edit Configurations...
- Save 'Car' Configuration
- Car
- Solver
- tox

Car > say\_state()







### ReSharper Ultimate

ReSharper, ReSharper C++, dotCover, dotTrace and dotMemory bundled in one license



### IntelliJ IDEA Ultimate

A complete toolset for JVM-based web, mobile and enterprise development



### AppCode

Smart iOS/macOS IDE



### CLion

Cross-platform C/C++ IDE



### RubyMine

IDE for Ruby and Rails



### DataGrip

An IDE for working with databases and SQL code



### PhpStorm

IDE for Web & PHP



### PyCharm

Powerful Python & Django IDE



### WebStorm

Smart JavaScript IDE

# Package managers



PIP



```
pip 8.1.2 from /root/mynewenv/lib/python3.5/site-packages (python 3.5)
(mynewenv) root@django110:~# pip install django==1.10
Collecting django==1.10
  Using cached Django-1.10-py2.py3-none-any.whl
Installing collected packages: django
Successfully installed django-1.10
(mynewenv) root@django110:~# django-admin --version
1.10
(mynewenv) root@django110:~# █
```

```
(mynewenv) root@django110:~# █
```

```
1.10
```

Google

HOW TO  
GOOGLE  
LIKE A PRO

# 1. English



как наследовать класс в питоне



Все

Картинки

Видео

Новости

Ещё

Настройки

Инструменты

Результатов: примерно 234 000 (0,38 сек.)

VS



python inheritance



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Инструменты

Результатов: примерно 25 600 000 (0,42 сек.)



## 2. Don't build sentences



how to create list in python



VS



py list



**3. Use keywords first**



tic tac toe game in python code



Все

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Карты

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Инструменты

Результатов: примерно 470 000 (0,45 сек.)

VS



python tic tac toe



Все

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Инструменты

Результатов: примерно 636 000 (0,41 сек.)

VCS

# What is Version Control?

*“A component of software configuration management, version control is the management of changes to documents, computer programs, large web sites, and other collections of information” © Wikipedia*

- System that keeps records of your changes
- Allows for collaborative development
- Allows you to know who made what changes and when
- Allows you to revert any changes and go back to a previous stage

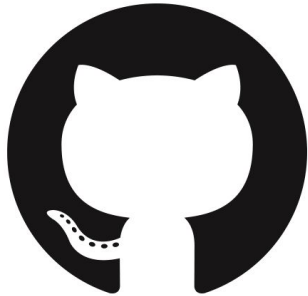
# What is Git?

Git is a distributed version-control system for tracking changes in source code during software development. It is designed for coordinating work among developers, but it can be used to track changes in any set of files. Its goals include speed, data integrity, and support for distributed, non-linear workflows



# Git is not Github!

- GitHub
- GitLab
- Bitbucket
- SourceForge





# Common git commands

\$git init

\$git branch

*The popular approach to version control*

\$git add

\$git checkout

\$git status

\$git merge

\$git commit

\$git reset

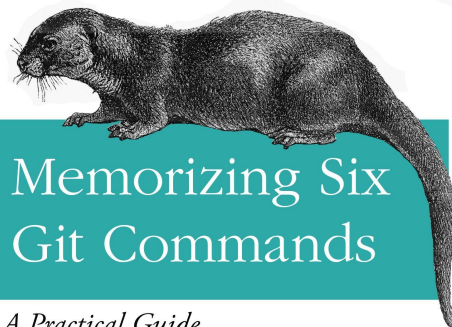
\$git push

\$git clone

\$git pull

\$git remote

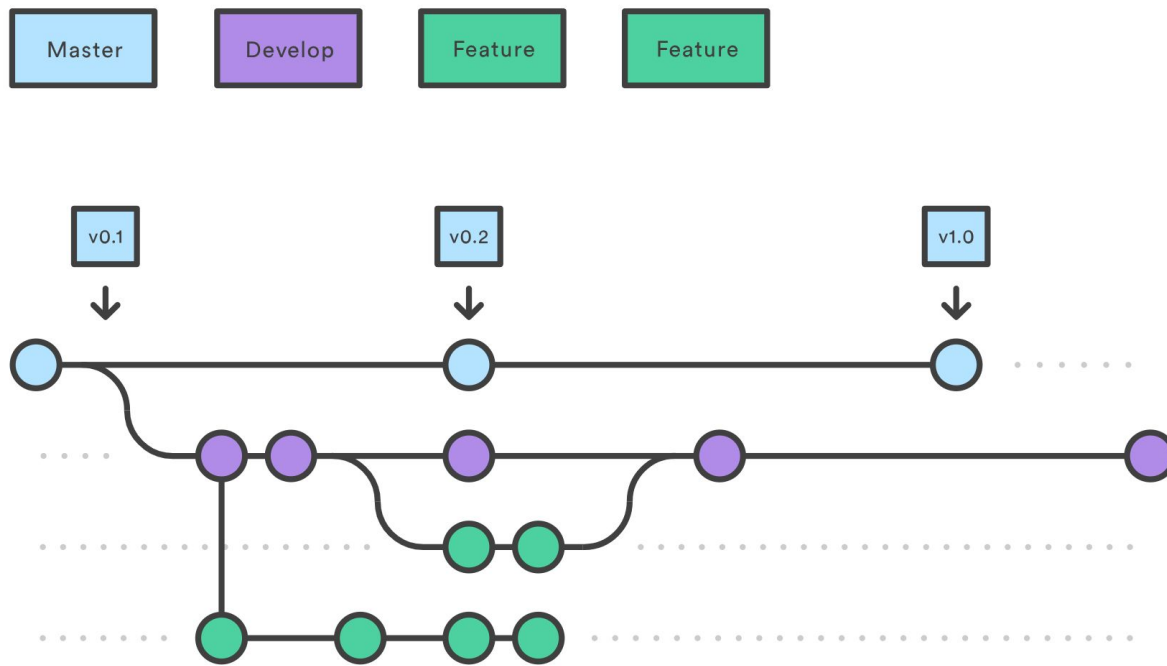
\$git diff

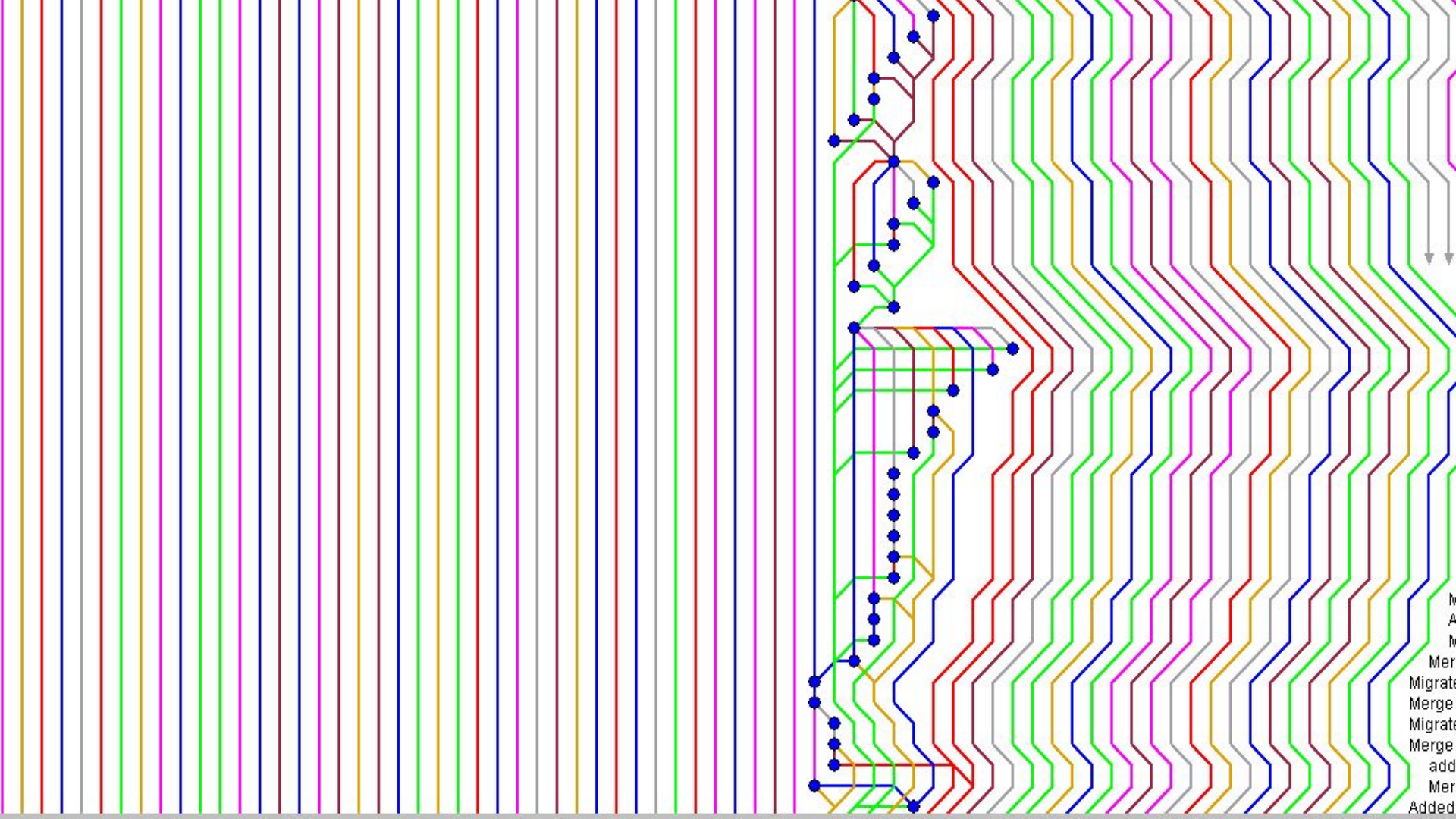


Memorizing Six  
Git Commands

*A Practical Guide*

# Git branches





# What is OS?

*“An operating system (OS) is system software that manages computer hardware, software resources, and provides common services for computer programs.”*

© Wikipedia

- Unix and Unix-like operating systems
- BSD and its descendants
- macOS
- Microsoft Windows
- Linux

Bye, Turing ;)