

Gitta

1.环境变量

a.传代码路径

切换到需要使用 `gitta` 的路径下，使用 `java -cp /Users/caocan/gitlet_java18 gitta.Main init` 之类的交互命令可以实现。

```
1 → testgitta git:(master) X java -cp /Users/caocan/gitlet_java18 gitta.Main init
2 # 在testgitta路径下，给出gitta.Main的路径，进行init
```

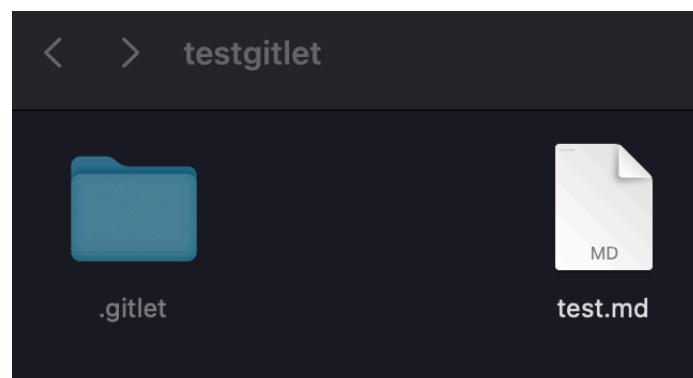
b.设置环境变量里的classpath

实现

1.add commit实现

```
1 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
  init
2 # 在testgitlet路径下，给出gitlet.Main的路径，进行init
3 → .gitlet git:(master) X tree .
4 .
5 |—— blobs
6 |—— commits
7 |   |—— cdccbf046899c4afed416edfa29c4e7a18e2d3f08 #init的初始化commit，无法打开
8 |—— head #内容: master
9 |—— refs
10 |—— stage
```

在testgitlet路径下，新建 `test.md`



```
1 → testgitlet git:(master) X vim test.md
2 → testgitlet git:(master) X cd .gitlet
3 → .gitlet git:(master) X tree . #新建文件: test.md .gitlet无变化
4 .
5 |—— blobs
6 |—— commits
```

```

7 |   |—— cdccbf046899c4afd416edfa29c4e7a18e2d3f08
8 |—— head #里面内容: master
9 |—— refs
10 |—— stage
11
12 3 directories, 3 files
13 -----
14 #通过status可以看见Untracked Files里面已经出现了test.md
15 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
status
16 === Branches ===
17 *master
18
19 === Staged Files ===
20
21 === Removed Files ===
22
23 === Modifications Not Staged For Commit ===
24
25 === Untracked Files ===
26 .DS_Store
27 test.md
28 -----
29 #add test.md之后, 出现了index和stage内文件
30 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main add
test.md
31 → testgitlet git:(master) X cd .gitlet
32 -----
33 → .gitlet git:(master) X tree .
34 .
35 |—— blobs
36 |—— commits
37 |   |—— cdccbf046899c4afd416edfa29c4e7a18e2d3f08
38 |—— head
39 |—— index
40 |—— refs
41 |—— stage
42     |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
43
44 3 directories, 5 files
45 -----
46 #commit之后
47 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
commit "cmt test.md"
48 → testgitlet git:(master) X cd .gitlet
49 -----
50 → .gitlet git:(master) X tree .
51 .
52 |—— blobs
53 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34 #commit后生成的blob
54 |—— commits
55 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39 #新的commit

```

```
56 |   └── cdccbf046899c4afd416edfa29c4e7a18e2d3f08
57 |─── head
58 |─── index
59 |─── refs
60 |   └── stage
61 |       └── b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
62
63 3 directories, 7 files
```

2.分支

可以新建一个分支 `dev`，在上面新建文本文件 `testdev.md`，然后切回master分支，编辑 `test.md` 文件，然后在master分支上尝试 `merge`。

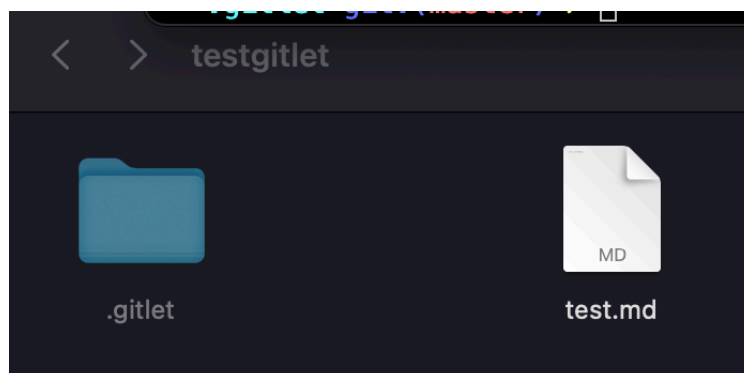
```
1  ➔ testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
   branch dev
2  ➔ .gitlet git:(master) X tree .
3  .
4  |─── blobs
5  |   └── b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
6  |─── commits
7  |   └── c322f9caeefdb6543659893c73cbc46941f04a39
8  |   └── cdccbf046899c4afd416edfa29c4e7a18e2d3f08
9  |─── head #未发生变化
10 |─── index
11 |─── refs
12 |   └── stage
13 |       └── b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
14
15 3 directories, 7 files
16 -----
17 ➔ testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
   checkout dev
18 ➔ .gitlet git:(master) X tree .
19 .
20 |─── blobs
21 |   └── b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
22 |─── commits
23 |   └── c322f9caeefdb6543659893c73cbc46941f04a39
24 |   └── cdccbf046899c4afd416edfa29c4e7a18e2d3f08
25 |─── head #head中内容从master变为了dev
26 |─── index
27 |─── refs
28 |   └── stage
29 |       └── b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
30
31 3 directories, 7 files
32
33 #使用status查看分支情况, 可见 *dev
```

```

34 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
    status
35 === Branches ===
36 *dev
37 master
38
39 === Staged Files ===
40
41 === Removed Files ===
42
43 === Modifications Not Staged For Commit ===
44
45 === Untracked Files ===
46 .DS_Store
47 -----
48 ## 在dev分支上新建 testdev.md文件
49 → testgitlet git:(master) X vim testdev.md
50 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main add
    testdev.md
51 → .gitlet git:(master) X tree .
52 .
53 |—— blobs
54 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
55 |—— commits
56 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
57 |   |—— cdccb046899c4afd416edfa29c4e7a18e2d3f08
58 |—— head
59 |—— index
60 |—— refs
61 |—— stage
62     |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44 ##暂存区新add的文件
63     |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
64
65 3 directories, 8 files
66 ## commit后blobs多了一个, commits里也多了一个

```

切换回master分支, head文件中从dev变为master, 工作区中 `testdev.md` 消失



```

1 # 在master分支上修改test.md内容
2 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
    status
3 === Branches ===

```

```

4 dev
5 *master
6
7 === Staged Files ===
8
9 === Removed Files ===
10
11 === Modifications Not Staged For Commit ===
12 test.md (modified)
13
14 === Untracked Files ===
15 .DS_Store
16
17 ## add之后stage里多了一个,并且index内容发生改变
18 → .gitlet git:(master) X tree .
19 .
20 |—— blobs
21 |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
22 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
23 |—— commits
24 |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
25 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
26 |   |—— cdccb046899c4afd416edfa29c4e7a18e2d3f08
27 |—— head
28 |—— index
29 |—— refs
30 |—— stage
31     |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
32     |—— 795202e85110e919537d33c4404035e35e1f7b73
33     |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
34
35 3 directories, 11 files
36 -----
37 ## commit后commits多了一个, blobs多了一个, 文件refs发生改变
38 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
   commit "modify testmd"
39 → testgitlet git:(master) X cd .gitlet
40 → .gitlet git:(master) X tree .
41 .
42 |—— blobs
43 |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
44 |   |—— 795202e85110e919537d33c4404035e35e1f7b73
45 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
46 |—— commits
47 |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
48 |   |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
49 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
50 |   |—— cdccb046899c4afd416edfa29c4e7a18e2d3f08
51 |—— head
52 |—— index
53 |—— refs
54 |—— stage

```

```

55      |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
56      |—— 795202e85110e919537d33c4404035e35e1f7b73
57      |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
58
59  3 directories, 13 files
60  -----
61  #在master分支上merge dev分支，工作区出现dev分支上的testdev.md文件，refs文件发生改变，新出现
    一个commits
62  → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
    merge dev
63  → .gitlet git:(master) X tree .
64  .
65  |—— blobs
66  |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
67  |   |—— 795202e85110e919537d33c4404035e35e1f7b73
68  |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
69  |—— commits
70  |   |—— 568453c9a1a3195153de951fd50bf72630aa3c26 ## 代表merge的commits
71  |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
72  |   |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
73  |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
74  |   |—— cdccbf046899c4afd416edfa29c4e7a18e2d3f08
75  |—— head
76  |—— index
77  |—— refs ##merge分支导致refs文件发生改变
78  |—— stage
79      |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
80      |—— 795202e85110e919537d33c4404035e35e1f7b73
81      |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
82
83  3 directories, 14 files

```

在不同分支上修改同一个文件然后merge

在master分支上修改testdev.md，在dev分支上也修改，回到master分支上merge

```

1  #在master分支上修改testdev.md并add和commit，refs和commits改变
2  → .gitlet git:(master) X tree .
3  .
4  |—— blobs
5  |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
6  |   |—— 795202e85110e919537d33c4404035e35e1f7b73
7  |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
8  |   |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b #新的blobs
9  |—— commits
10 |   |—— 568453c9a1a3195153de951fd50bf72630aa3c26
11 |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
12 |   |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
13 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
14 |   |—— cdccbf046899c4afd416edfa29c4e7a18e2d3f08
15 |   |—— ec7f44e6724cd816d74656dfbb7c3e18f5f84376 #新commits
16 |—— head

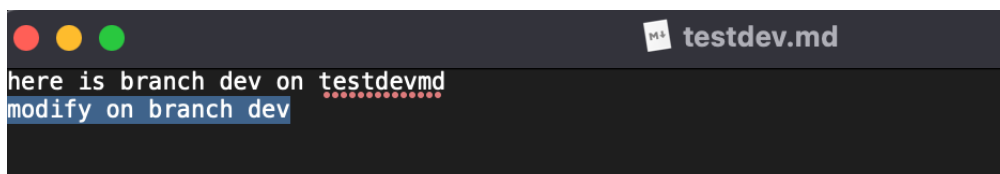
```

```

17 |—— index
18 |—— refs
19 |—— stage
20 |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
21 |—— 795202e85110e919537d33c4404035e35e1f7b73
22 |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
23 |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b #新stage
24
25 3 directories, 17 files
26 -----
27 # 切换到dev分支上修改testdev.md文件 add、commit后
28 → .gitlet git:(master) X tree .
29 .
30 |—— blobs
31 | |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
32 | |—— 795202e85110e919537d33c4404035e35e1f7b73
33 | |—— 954c45f719e0d75dc04a12fa386e957d7c2441 #新blobs
34 | |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
35 | |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
36 |—— commits
37 | |—— 568453c9a1a3195153de951fd50bf72630aa3c26
38 | |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
39 | |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
40 | |—— c322f9caeefdb6543659893c73cbc46941f04a39
41 | |—— cdc0b046899c4afd416edfa29c4e7a18e2d3f08
42 | |—— e6dbf1d37240d97499e954557308c9a49de96ea2 #新commits
43 | |—— ec7f44e6724cd816d74656dfbb7c3e18f5f84376
44 |—— head
45 |—— index
46 |—— refs
47 |—— stage
48 |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
49 |—— 795202e85110e919537d33c4404035e35e1f7b73
50 |—— 954c45f719e0d75dc04a12fa386e957d7c2441 #新stage
51 |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
52 |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
53
54 3 directories, 20 files

```

在 dev 分支上打开 testdev.md 文件



```

1 #回到master分支上merge,显示Encoutered a merge conflict
2 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
   status
3 === Branches ===
4 dev
5 *master

```

```

6
7  === Staged Files ===
8
9  === Removed Files ===
10
11 === Modifications Not Staged For Commit ===
12
13 === Untracked Files ===
14 .DS_Store
15 → testgitlet git:(master) X java -cp /Users/caocan/gitlet-java18 gitlet.Main
merge dev
16 Encountered a merge conflict.%
17 -----
18 → .gitlet git:(master) X tree .
19 .
20 |—— blobs
21 |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
22 |   |—— 5847e41a020f6748a9203a812e8385e6ca628308 ## 新blobs
23 |   |—— 795202e85110e919537d33c4404035e35e1f7b73
24 |   |—— 954c45f719e0d75dc04a12fa386e957d7c2441
25 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
26 |   └── f4454efa1a4f84a93912d239dbdbb11eb9d5184b
27 |—— commits
28 |   |—— 568453c9a1a3195153de951fd50bf72630aa3c26
29 |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
30 |   |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
31 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
32 |   |—— c4d65a4ed16776fdf25fde6b1cc39914a8c980d0 ##新commits
33 |   |—— cdccbf046899c4afd416edfa29c4e7a18e2d3f08
34 |   |—— e6dbf1d37240d97499e954557308c9a49de96ea2
35 |   └── ec7f44e6724cd816d74656dfbb7c3e18f5f84376
36 |—— head
37 |—— index
38 |—— refs
39 └── stage
40     |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
41     |—— 5847e41a020f6748a9203a812e8385e6ca628308 ##新stage
42     |—— 795202e85110e919537d33c4404035e35e1f7b73
43     |—— 954c45f719e0d75dc04a12fa386e957d7c2441
44     |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
45     └── f4454efa1a4f84a93912d239dbdbb11eb9d5184b
46
47 3 directories, 23 files

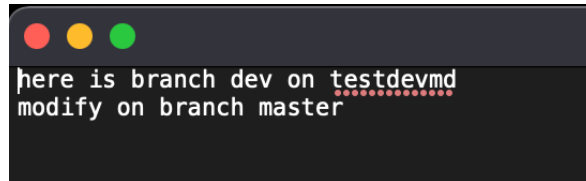
```

```

testdev.md
<<<<<<< HEAD
here is branch dev on testdevmd
modify on branch master
=====
here is branch dev on testdevmd
modify on branch dev
>>>>>>>

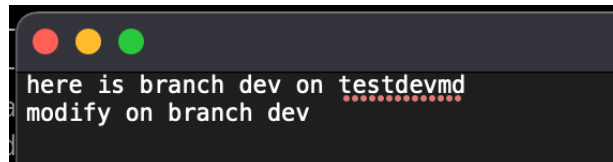
```


会显示冲突文本，如上图所示，可以自行进行修改



```
here is branch dev on testdevmd
modify on branch master
```

这是ec7f的版本



```
here is branch dev on testdevmd
modify on branch dev
```

这是e6db的版本

3.reset

```
1  → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main
   status
2  === Branches ===
3  dev
4  *master
5
6  === Staged Files ===
7
8  === Removed Files ===
9
10 === Modifications Not Staged For Commit ===
11
12 === Untracked Files ===
13 .DS_Store
14 → testgitlet git:(master) x vim test.md #修改test.md后add和commit
15 -----
16 → .gitlet git:(master) x tree .
17 .
18 |—— blobs
19 |   |—— 2caf63aabaj79a1e96a7298c1c2800b635e9fa44
20 |   |—— 5847e41a020f6748a9203a812e8385e6ca628308
21 |   |—— 795202e85110e919537d33c4404035e35e1f7b73
22 |   |—— 954c45f719e0d75dc04a12fa386e957d7c2441
23 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
24 |   |—— c7e47bb07f83502dc9ad8d64703ca2c67cb28b36 ##新blobs
25 |   |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
26 |—— commits
27 |   |—— 568453c9a1a3195153de951fd50bf72630aa3c26
28 |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
29 |   |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
30 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
31 |   |—— c4d65a4ed16776fdf25fde6b1cc39914a8c980d0
32 |   |—— cdccb046899c4afd416edfa29c4e7a18e2d3f08
```

```

33 |   |—— e6dbf1d37240d97499e954557308c9a49de96ea2
34 |   |—— ec7f44e6724cd816d74656dfbb7c3e18f5f84376
35 |   |—— edd0cc779f1c3347da79110e249322a95b80d3df ##新commits
36 |—— head
37 |—— index
38 |—— refs
39 |—— stage
40 |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
41 |—— 5847e41a020f6748a9203a812e8385e6ca628308
42 |—— 795202e85110e919537d33c4404035e35e1f7b73
43 |—— 954c45f719e0d75dcdc04a12fa386e957d7c2441
44 |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
45 |—— c7e47bb07f83502dc9ad8d64703ca2c67cb28b36 ##新stage
46 |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
47
48 3 directories, 26 files
49 -----
50 # 再次修改test.md文件, add并commit
51 # 有新的commits: 79812a47f28d6d5f95b22a28dcc57d3ee67fe1dc
52 # 新的stage和blobs: 1efba49e6da071c378ed6d9b77ca750e14073744
53 ---
54 #在7981上修改test.md再add, 有新的stage和blobs:
55 c6c291a222d920649914e3d37bc941a9357d2192
56 #在7981上修改, 不add, 除了工作区不发生改变

```

尝试reset

```

1 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
   reset edd0
2 → testgitlet git:(master) X java -cp /Users/caocan/gitlet_java18 gitlet.Main
   status
3 === Branches ===
4 dev
5 *master
6
7 === Staged Files ===
8
9 === Removed Files ===
10
11 === Modifications Not Staged For Commit ===
12
13 === Untracked Files ===
14 .DS_Store
15
16 #所有的工作区和暂存区都回到了edd0的状态, 属于reset --hard模式

```

```

this is 1st edition.
i checkout back from dev.
----edit on c4d6
I wanto moveon!oyeahH~~
modify on edd0

```

再reset回去7981可以实现，但在7981上继续add和没add的工作已经全部丢失，只剩下commit的内容

```
reset --hard
```

4.rm

在7981上新建文件 `rmtest.md`，未add时使用 `rm rmtest.md` 显示 `No reason to remove the file`

`add rmtest.md` 后，stage和index多了一个，但 `rm rmtest.md` 后，stage和index少了增加的这一个。

查看 `status` 发现 `rmtest.md` 又回到了 `Untracked Files` 里

```
1  → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main rm
   rmtest.md
2  No reason to remove the file%
3  → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main add
   rmtest.md
4  → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main rm
   rmtest.md
5  → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main
   status
6  === Branches ===
7  dev
8  *master
9
10 === Staged Files ===
11
12 === Removed Files ===
13
14 === Modifications Not Staged For Commit ===
15 test.md (modified)
16
17 === Untracked Files ===
18 .DS_Store
19 rmtest.md
```

重新 `add` 和 `commit rmtest.md` 文件

```
1  → .gitlet git:(master) x tree .
2  .
3  |—— blobs
4  |   |—— 1efba49e6da071c378ed6d9b77ca750e14073744
5  |   |—— 2caf63aabaj79a1e96a7298c1c2800b635e9fa44
6  |   |—— 580e8b8e094398f93a159a5a497bcfb1ab8f5dc3 ##新blobs-rmtest.md
7  |   |—— 5847e41a020f6748a9203a812e8385e6ca628308
8  |   |—— 795202e85110e919537d33c4404035e35e1f7b73
9  |   |—— 954c45f719e0d75dc04a12fa386e957d7c2441
10 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
11 |   |—— c7e47bb07f83502dc9ad8d64703ca2c67cb28b36
12 |   |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
13 |—— commits
```

```

14 | |—— 29a19c06ea971505776447ad1de719b114e95575 ##新commits-rmtest.md
15 | |—— 568453c9a1a3195153de951fd50bf72630aa3c26
16 | |—— 79812a47f28d6d5f95b22a28dcc57d3ee67fe1dc
17 | |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
18 | |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
19 | |—— c322f9caeefdb6543659893c73cbc46941f04a39
20 | |—— c4d65a4ed16776fdf25fde6b1cc39914a8c980d0
21 | |—— cdccb046899c4afd416edfa29c4e7a18e2d3f08
22 | |—— e6dbf1d37240d97499e954557308c9a49de96ea2
23 | |—— ec7f44e6724cd816d74656dfbb7c3e18f5f84376
24 | |—— edd0cc779f1c3347da79110e249322a95b80d3df
25 |—— head
26 |—— index
27 |—— refs
28 |—— stage
29 |—— 1efba49e6da071c378ed6d9b77ca750e14073744
30 |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
31 |—— 580e8b8e094398f93a159a5a497bcfb1ab8f5dc3 ##新blobs-rmtest.md
32 |—— 5847e41a020f6748a9203a812e8385e6ca628308
33 |—— 795202e85110e919537d33c4404035e35e1f7b73
34 |—— 954c45f719e0d75dc004a12fa386e957d7c2441
35 |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
36 |—— c6c291a222d920649914e3d37bc941a9357d2192
37 |—— c7e47bb07f83502dc9ad8d64703ca2c67cb28b36
38 |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
39
40 3 directories, 33 files

```

`rm rmtest.md` 后，文件删除，但仍然在29a1结点上，`.gitlet` 内未改变

```

1 → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main
   status
2 === Branches ===
3 dev
4 *master
5
6 === Staged Files ===
7
8 === Removed Files ===
9 rmtest.md ## rm后的文件出现在 Removed Files中
10
11 === Modifications Not Staged For Commit ===
12 test.md (modified)
13
14 === Untracked Files ===
15 .DS_Store

```

但也可以再 `reset 29a1` 回去，工作区会重新出现 `rmtest.md` 并且Removed Files中不再有 `rmtest.md`

```
1  === Branches ===
2  dev
3  *master
4
5  === Staged Files ===
6
7  === Removed Files ===
8
9  === Modifications Not Staged For Commit ===
10
11 === Untracked Files ===
12 .DS_Store
```

5.log

```
1  ## log命令-当前分支的commit-log
2  → testgitlet git:(master) x java -cp /Users/caocan/gitlet_java18 gitlet.Main
   log
3  ===
4  commit 29a1
5  Date: Thu Jan 07 01:19:55 2021 +0800
6  rmtest on 7981
7
8  ===
9  commit 7981
10 Date: Thu Jan 07 00:43:00 2021 +0800
11 modify on edd0
12
13 ===
14 commit edd0cc779f1c3347da79110e249322a95b80d3df
15 Date: Thu Jan 07 00:36:11 2021 +0800
16 modify test on c4d6
17
18 ===
19 commit c4d6
20 Merge: ec7f44e e6dbf1d
21 Date: Thu Jan 07 00:05:03 2021 +0800
22 Merged dev into master.
23
24 ===
25 commit ec7f44e6724cd816d74656dfbb7c3e18f5f84376
26 Date: Wed Jan 06 23:50:15 2021 +0800
27 modify testdev on master
28
29 ===
30 commit 568453c9a1a3195153de951fd50bf72630aa3c26
31 Merge: ab28664 896e6b6
32 Date: Wed Jan 06 23:00:26 2021 +0800
33 Merged dev into master.
```

```
34
35 ===
36 commit ab28664ecbcf5121790f4153cc4cf37ef20f1aad
37 Date: Wed Jan 06 22:57:55 2021 +0800
38 modify testmd
39
40 ===
41 commit c322f9caeefdb6543659893c73cbc46941f04a39
42 Date: Wed Jan 06 22:16:20 2021 +0800
43 cmt test.md
44
45 ===
46 commit cdccbf046899c4afd416edfa29c4e7a18e2d3f08
47 Date: Thu Jan 01 08:00:00 1970 +0800
48 initial commit
49
50 -----
51 ## global-log命令, 所有分支的commit-log
52 → testgitlet git:(master) ✗ java -cp /Users/caocan/gitlet_java18 gitlet.Main
   global-log
53
54 ===
55 commit 29a19c06ea971505776447ad1de719b114e95575
56 Date: Thu Jan 07 01:19:55 2021 +0800
57 rmtest on 7981
58
59 ===
60 commit 568453c9a1a3195153de951fd50bf72630aa3c26
61 Merge: ab28664 896e6b6
62 Date: Wed Jan 06 23:00:26 2021 +0800
63 Merged dev into master.
64
65
66 ===
67 commit 79812a47f28d6d5f95b22a28dcc57d3ee67fe1dc
68 Date: Thu Jan 07 00:43:00 2021 +0800
69 modify on edd0
70
71
72 ===
73 commit 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
74 Date: Wed Jan 06 22:46:55 2021 +0800
75 testdev ondev
76
77
78 ===
79 commit ab28664ecbcf5121790f4153cc4cf37ef20f1aad
80 Date: Wed Jan 06 22:57:55 2021 +0800
81 modify testmd
82
83
84 ===
```

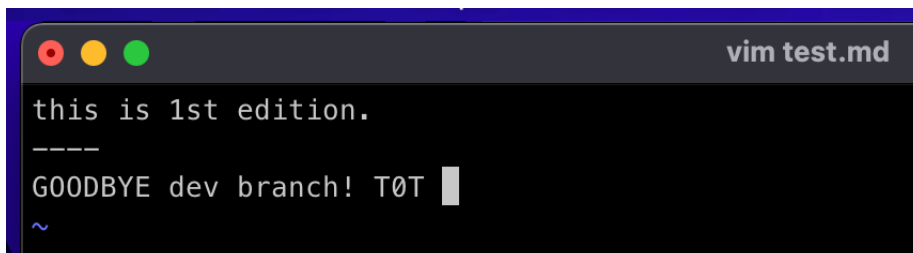
```

85  commit c322f9caeefdb6543659893c73cbc46941f04a39
86  Date: Wed Jan 06 22:16:20 2021 +0800
87  cmt test.md
88
89
90  ===
91  commit c4d65a4ed16776fdf25fde6b1cc39914a8c980d0
92  Merge: ec7f44e e6dbf1d
93  Date: Thu Jan 07 00:05:03 2021 +0800
94  Merged dev into master.
95
96
97  ===
98  commit cdccbf046899c4afd416edfa29c4e7a18e2d3f08
99  Date: Thu Jan 01 08:00:00 1970 +0800
100  initial commit
101
102
103  ===
104  commit e6dbf1d37240d97499e954557308c9a49de96ea2
105  Date: Wed Jan 06 23:56:53 2021 +0800
106  modify on branch dev
107
108
109  ===
110  commit ec7f44e6724cd816d74656dfbb7c3e18f5f84376
111  Date: Wed Jan 06 23:50:15 2021 +0800
112  modify testdev on master
113
114
115  ===
116  commit edd0cc779f1c3347da79110e249322a95b80d3df
117  Date: Thu Jan 07 00:36:11 2021 +0800
118  modify test on c4d6

```

6.rm-branch

切到 `dev` 分支,修改 `test.md` 并 `add commit` 使得 `dev` 分支上有ahead master分支的内容,再切回 `master`分支,在不merge的情况下,直接 `rm-branch` 查看会发生什么



```

vim test.md
this is 1st edition.
----
GOODBYE dev branch! TOT
~

```

```

2  |—— blobs
3  |   |—— 1efba49e6da071c378ed6d9b77ca750e14073744
4  |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
5  |   |—— 580e8b8e094398f93a159a5a497bcfb1ab8f5dc3
6  |   |—— 5847e41a020f6748a9203a812e8385e6ca628308
7  |   |—— 78ccfa6e5782586ba36764d6979d8c2f119b7a5f ##新blobs
8  |   |—— 795202e85110e919537d33c4404035e35e1f7b73
9  |   |—— 954c45f719e0d75dc04a12fa386e957d7c2441
10 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
11 |   |—— c7e47bb07f83502dc9ad8d64703ca2c67cb28b36
12 |   |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
13 |—— commits
14 |   |—— 29a19c06ea971505776447ad1de719b114e95575
15 |   |—— 568453c9a1a3195153de951fd50bf72630aa3c26
16 |   |—— 79812a47f28d6d5f95b22a28dcc57d3ee67fe1dc
17 |   |—— 896e6b6f1dbd96ab82f4c908ee56725d7607a0e0
18 |   |—— ab28664ecbcf5121790f4153cc4cf37ef20f1aad
19 |   |—— c322f9caeefdb6543659893c73cbc46941f04a39
20 |   |—— c4d65a4ed16776fdf25fde6b1cc39914a8c980d0
21 |   |—— cdccb046899c4afd416edfa29c4e7a18e2d3f08
22 |   |—— e45d4b03f3499eb4142ef86ca6c0831a61196af6 ##新commits
23 |   |—— e6dbf1d37240d97499e954557308c9a49de96ea2
24 |   |—— ec7f44e6724cd816d74656dfbb7c3e18f5f84376
25 |   |—— edd0cc779f1c3347da79110e249322a95b80d3df
26 |—— head
27 |—— index
28 |—— refs
29 |—— stage
30 |   |—— 1efba49e6da071c378ed6d9b77ca750e14073744
31 |   |—— 2caf63aabaf79a1e96a7298c1c2800b635e9fa44
32 |   |—— 580e8b8e094398f93a159a5a497bcfb1ab8f5dc3
33 |   |—— 5847e41a020f6748a9203a812e8385e6ca628308
34 |   |—— 78ccfa6e5782586ba36764d6979d8c2f119b7a5f##新blobs
35 |   |—— 795202e85110e919537d33c4404035e35e1f7b73
36 |   |—— 954c45f719e0d75dc04a12fa386e957d7c2441
37 |   |—— b3198b8aa6efbaeba8dbbc0876ffdf4f3bd7a34
38 |   |—— c6c291a222d920649914e3d37bc941a9357d2192
39 |   |—— c7e47bb07f83502dc9ad8d64703ca2c67cb28b36
40 |   |—— f4454efa1a4f84a93912d239dbdbb11eb9d5184b
41
42 3 directories, 36 files

```

7.find命令

```

1  → testgitlet git:(master) ✕ java -cp /Users/caocan/gitlet_java18 gitlet.Main find
   "modify on edd0"
2  79812a47f28d6d5f95b22a28dcc57d3ee67fe1dc #msg-->sha1

```