Lab2C

实验2C的主要内容就是持久化，依据论文内容，需要持久化的部分是三个：

votedfor、log、currentTerm

持久化的代码依据已有的提示很容易就能够写出来。

```go
func (rf *Raft) persist() {
    // Your code here (2C).
    w := new(bytes.Buffer)
    e := labgob.NewEncoder(w)
    e.Encode(rf.currentTerm)
    e.Encode(rf.votedFor)
    e.Encode(rf.log)
    data := w.Bytes()
    rf.persister.SaveRaftState(data)
}

func (rf *Raft) readPersist(data []byte) {
    if data == nil || len(data) < 1 { // bootstrap without any state?
        return
    }
    // Your code here (2C).
    r := bytes.NewBuffer(data)
    d := labgob.NewDecoder(r)
    rf.mu.Lock()
    defer rf.mu.Unlock()
    d.Decode(&rf.currentTerm)
    d.Decode(&rf.votedFor)
    d.Decode(&rf.log)
}
```

```
lyj@ubuntu:~/Desktop/6.824/src/raft$ go test -run 2C
Test (2C): basic persistence ...
labgob warning: Decoding into a non-default variable/field int may not work
  ... Passed --    4.6   3    101     23541        6
Test (2C): more persistence ...
  ... Passed --   23.3   5   1782    315261       16
Test (2C): partitioned leader and one follower crash, leader restarts ...
  ... Passed --    2.2   3     34      8669        4
Test (2C): Figure 8 ...
  ... Passed --   40.0   5    574    115722       16
Test (2C): unreliable agreement ...
  ... Passed --    5.0   5    186     72353      246
Test (2C): Figure 8 (unreliable) ...
  ... Passed --   33.3   5   2514  9299098      548
Test (2C): churn ...
  ... Passed --   16.6   5    789    439084     136
Test (2C): unreliable churn ...
  ... Passed --   16.8   5    392    137966      57
PASS
ok      _/home/lyj/Desktop/6.824/src/raft        141.825s
```

但是在多次测试的时候，还是发现存在不小的概率会出现失败，并且失败集中在Figure 8（unreliable）上。

目前估计的原因是在于log对齐的时间过长，导致一直无法产生提交，出现如下错误：

one(1478) failed to reach agreement

目前还在寻找解决办法。