

Mini HW #3

Due Time: 2017/10/12 (Thu.) 17:20

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Read the code below and prove the time complexity of $f(1, N, 1, M)$ is $O(M \log_2 N)$.

```
1 void f( int l , int r , int bl , int br ){
2     if( l > r ) return;
3     int mid = (l + r) / 2;
4     int bmid = bl;
5     for( int i = bl + 1 ; i <= br ; i ++ )
6         if( rand() % ( i - bl + 1 ) == 0 )
7             bmid = i;
8     f( l , mid - 1 , bl , bmid );
9     f( mid + 1 , r , bmid , br );
10 }
11 f( 1 , N , 1 , M );
```

Notes on homeworks:

- With TA's discretion, too complicated answers will be counted as wrong
- The tidiness of your homework contributes to your grade.