Algorithms Review for Job Interview

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1	12/20/2014, Saturday
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12/20/2014, Saturday

- Website (github), program highlight, and chinese input environment all good now;
- Will configure Linux Mint Java environment later, prefer emacs;
- \bullet 145/168 done before new season review, begin to work on these questions from today.
- Just got 4 easiest done: **149/168**
 - min stack,

3 12/22/2014, Monday

- excel sheet column title,compare version number, and
- intersection of two linked list,

12/21/2014, Sunday

- Only three got done today: 152/169
 - maximum gap
 - fraction to recurring decimal
 - majority element
- Don't feel my mind is clear today at all, will look into job searing instead, hopefully tomorrow I can solve more problems, and slightly complicated ones;

12/22/2014, Monday

- So far got four done: **156/169**
 - sort list
 - merge k sorted list
 - trapping rain water
 - recovery binary search tree
- am going to work on the rest 6 to night, so that hopefully tomorrow I would be able to work on the new 10

```
- regular expression matching
      - divide two integers
      - clone graph
      - find peak element
      - maximal rectangle
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#include <pthread.h>
#include <stdlib.h>
#include <stdio.h>
#define SIZE 8 // Size by SIZE matrices
using namespace std;
int main(int argc, char* argv[]) { // sampel mark for 中文是可以的
   pthread_t* thread; // pointer to a group of threads
   int i;
   if (argc!=2) {
       printf("Usage: %s number_of_threads\n",argv[0]);
       exit(-1);
   }
   num_thrd = atoi(argv[1]);
   printf("num_thrd: %d\n", num_thrd);
   init_matrix(A);
   printf("\n");
   init_matrix(B);
   thread = (pthread_t*) malloc(num_thrd*sizeof(pthread_t));
   for (i = 1; i < num_thrd; i++) {
       //printf("address i: %d\n", i);
       int rc = pthread_create(&thread[i], NULL, multiply, &idx[i]);
       if (rc != 0) {
           perror("Can't create thread");
            free(thread);
            exit(-1);
       }
   }
   // main thread works on slice 0
   // so everybody is busy
   // main thread does everything if threadd number is specified as 1
   //int tmp = 0;
   multiply((void*)(&(idx[0])));
   // main thead waiting for other thread to complete
   for (i = 2; i <= num_thrd; i++)
       pthread_join(thread[i-1], NULL);
   printf("\n\n");
   print_matrix(A);
   printf("\n\n\t
                       * \n");
   print_matrix(B);
   printf("\n\n\t
                         = \n";
   print_matrix(C);
```

- word ladder II

```
printf("\n\n");
free(thread);
return 0;
```

}