

# Data structure HW1 report

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### Algorithm:

```
Read lines from the test file
split each line into word tokens

if (tokens is in the hash)
    frequency++
else
    push the token into the hash

get all elements in the hash
sort it according to each element's frequency

output first rank k elements
```

### output of the test file from e3

```
14:50 ymli@csduty [~/work] > ./0016045_hw1 test.txt 3
(of,51)
(the,50)
(in,24)
(a,24)
time: 0.002(s)
```

the most frequency 3 from the test file

# Data structure implementation

the data structure I use is a hash, and record each word token in it

```
// structure pair of each elements in the hash
// to record the string and its frequency
struct pair {
    char *key;
    int value;
};
```

```
// hash
struct hash {
    struct pair *pool[MAX_HASH_MAMBERS];
    int members;
    int record_num;
};
```

data pool of the hash

