

# Report Assignment 1

## (VAIBHAV VARSHNEY, MT17065)

### Analysis

#### (1) On the basis of time

Following results have been observed after observed when the skip list method was run with mentioned skip lengths :

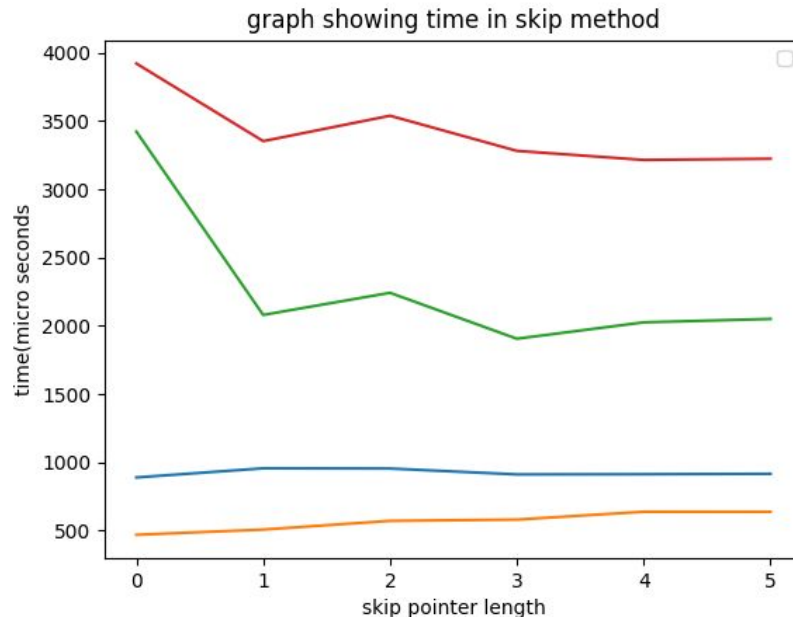
Skip Length(l)	Execution time(microsec)	Execution time for AND
$\sqrt{l}$	267.2749997145729	282.71700011828216
$\sqrt{l}/2$	182.50099947181297	245.0539996061707
$2 * \sqrt{l}$	318.9729995938251	243.69099992327392
$4*\sqrt{l}$	329.84500012389617	243.31900021934416

According to the following results, the best results were shown when the length of the skip pointer is square-root of the length.

On comparison of the results of AND the SKIP algorithm, there was a variation found in the time taken for the execution in multiple tries. In most of the cases, skip algorithm were less execution time.

Output comparison of AND and SKIP LIST:

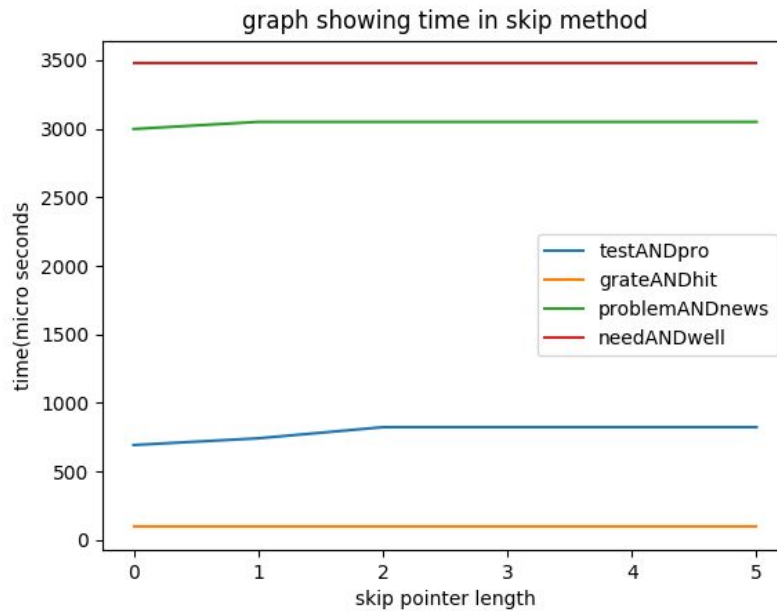
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95
Time taken by skip method : 512.9849996592384 microseconds
Time taken by and : 531.509000211372 microseconds
7
Time taken by skip method : 508.1890003566514 microseconds
Time taken by and : 548.582999726932 microseconds
7
Time taken by skip method : 506.7310003141756 microseconds
Time taken by and : 475.3140001412248 microseconds
7
Time taken by skip method : 492.6060000798316 microseconds
Time taken by and : 522.3859998295666 microseconds
7
>>>
```



## (2) On the basis of iterations:

If we perform the analysis on the basis of of the number of iterations performed, then following inference can be made :

- (1) If we compare the results obtained by normal AND operation and AND based on skip pointers, then significant decrease can be observed in the number of iterations taken to perform the operation.
- (2) If we compare the results on the basis of the length of the skip pointer positions then not a significant change was observed.



Word Cloud obtained:

