Summary

Introduction:

Page Rank is a numeric value that represents the importance of a page present on the web. When one page links to another page, it is effectively casting a vote for the other page. More votes implies more importance. Importance of the page that is casting the vote determines the importance of the vote. Google calculates a page's importance from the votes cast for it. Importance of each vote is taken into account when a page's Page Rank is calculated. Page Rank is Google's way of deciding a page's importance. It matters because it is one of the factors that determines a page's ranking in the search results.

Analysis:

As number of pages is increased, graph takes more number of iterations to converge. Also average time taken to converge graph also increases as pages are increased.

- 100 pages: Average time taken is 3 milli seconds.
- 500 pages: Average time taken is 18 milli seconds.
- 1000 pages: Average time taken is 88 milli seconds.
- 2000 pages: Average time taken is 1008 milli seconds.
- 5000 pages: Average time taken is 19222 milli seconds.
- 10000 pages: Average time taken is 85810 milli seconds

Time Complexity:

Time complexity is O(n+m).

Output:

```
PS D:\CS610\GooglePageRanking> java -jar PartTwo.jar

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