Page Rank Algorithm

```python
# directed graph
graph = [[ 0, 1,  0,  1, 1,  0],
         [1,  0,  0, 1,  0,  1],
         [ 0,  1,  0,  0, 0,  1],
         [ 1, 0,  1,  0,  1, 1],
         [1,  0, 0,  1,  0,  1],
         [ 0,  1,  0, 0,  1,  0]]
```

```python
def PageRank(graph, depth):
    n = len(graph)
    old_rank = [1/n for _ in range(n)]
    new_rank = [*old_rank]
    in_degree = [0 for _ in range(n)]

    for i in range(n):
        for j in range(n):
            in_degree[j] += graph[i][j]

    for _ in range(depth):

        for i in range(n):
            total = 0
            for j in range(n):
                if graph[j][i] == 1 and in_degree[j] != 0:
                    total+= old_rank[j]/in_degree[j]

            new_rank[i] = total

        old_rank = new_rank

    return new_rank
```

```python
PageRank(graph,2)
```

```
[0.19444444444444445,
 0.20370370370370372,
 0.05555555555555555,
 0.18364197530864199,
 0.20936213991769548,
 0.2544581618655693]
```