**Graph-based approaches**

Menggunakan algoritma TextRank. Algoritma TextRank ini didasari dengan algoritma PageRank.

S(Vi) = *the weight of webpage i*.

S(Vj) = *the weight of webpage j*.

d = faktor damping biasanya 0,85*.*

In(Vi) = *inbound links of i*

Out(Vj) = *outgoing links of j.*

|Out(Vj)| = *the number of outbound links.*

**ALGORITMA PAGE RANK**

A picture containing object

Description automatically generated

**Menentukan *weights of inbound nodes* tiap iterasi**

**Contoh menentukan *weights of inbound nodes of A***

|  |  |
| --- | --- |
|  | **Iterasi 0** |
| **A** | **1** |
| **B** | 1 |
| **C** | 1 |
| **D** | 1 |

|  |  |  |
| --- | --- | --- |
|  | **Iterasi 1** | |
|  | **Gambar** | **Cara** |
| **A** | A picture containing object, clock  Description automatically generated |  |
| **B** | A picture containing object, clock  Description automatically generated |  |
| **C** |  |  |
| **D** |  |  |

**Hasil**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Iterasi 0** | **Iterasi 1** | **Iterasi 2** |
| **A** | 1 | 2/6 | 9/18 |
| **B** | 1 | 5/6 | 12/18 |
| **C** | 1 | 9/6 | 27/18 |
| **D** | 1 | 8/6 | 24/18 |

**Membuat matriks adjacency**

Menurut dari rumus

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **A** | **B** | **C** | **D** |
| A | 0 | 0 | 1/3 | 0 |
| B | 1/2 | 0 | 1/3 | 0 |
| C | 1/2 | 0 | 0 | 1 |
| D | 0 | 1 | 1/3 | 0 |

**Mengkalikan matriks adjacency dengan *weights of inbound nodes* tiap iterasi**

**Iterasi 1**

**Iterasi 2**

**Hasil**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Iterasi 0** | **Iterasi 1** | **Iterasi 2** | **PageRank** |
| **A** | 1 | 2/6 | 9/18 | 4 |
| **B** | 1 | 5/6 | 12/18 | 3 |
| **C** | 1 | 9/6 | 27/18 | 1 |
| **D** | 1 | 8/6 | 24/18 | 2 |