Nama   : Azzahra Salsabilla
NIM   : L200170130
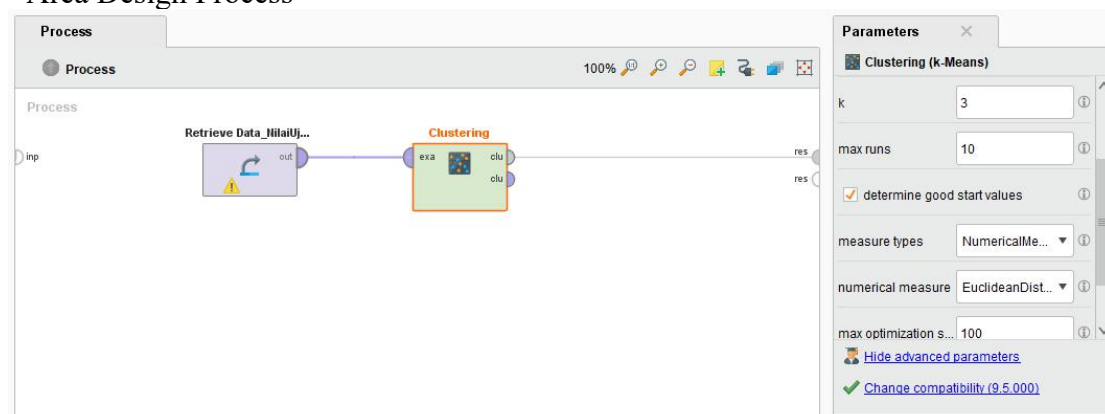Kelas   : E

Laporan Kegiatan Praktikum DWDM
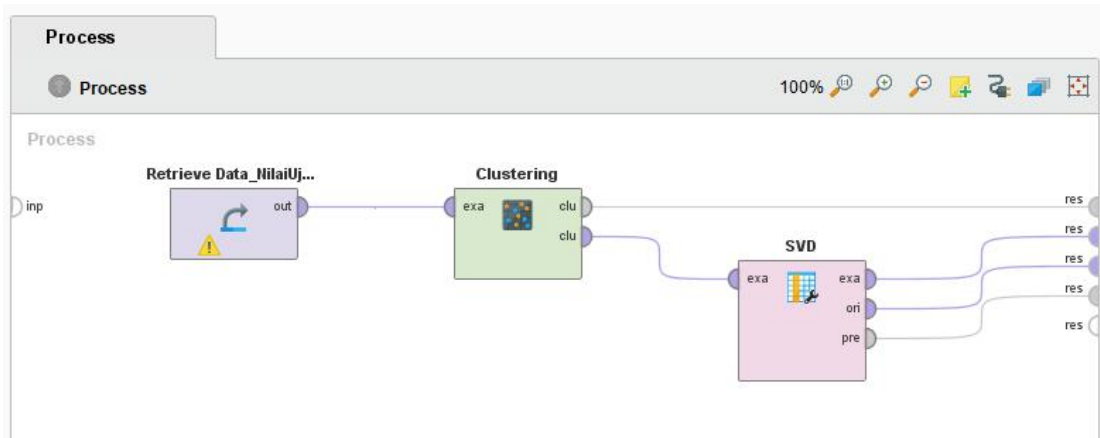# Modul 10 (Clustering : K-Means)

- Tabel data nilai siswa

NO_SISWA	NAMA	B.IND	B.ING
S-101	JOKO	8.54	8.40
S-102	AGUS	9.98	6.81
S-103	SUSI	6.20	9.15
S-104	DYAH	5.24	7.26
S-105	WATI	5.70	5.71
S-106	IKA	8.57	5.87
S-107	EKO	7.70	7.71
S-108	YANTO	6.60	5.70
S-109	WAWAN	9.00	8.12
S-110	MAHMUD	9.81	9.58

	NAMA	B.IND	B.ING
	polynominal id	real	real
1	JOKO	8.540	8.400
2	AGUS	9.980	6.810
3	SUSI	6.200	9.150
4	DYAH	5.240	7.260
5	WATI	5.700	5.710
6	IKA	8.570	5.870
7	EKO	7.700	7.710
8	YANTO	6.600	5.700
9	WAWAN	9.000	8.120
10	MAHMUD	9.810	9.580

- Area Design Process

Hasil proses Clustering dengan Algoritma k-Means
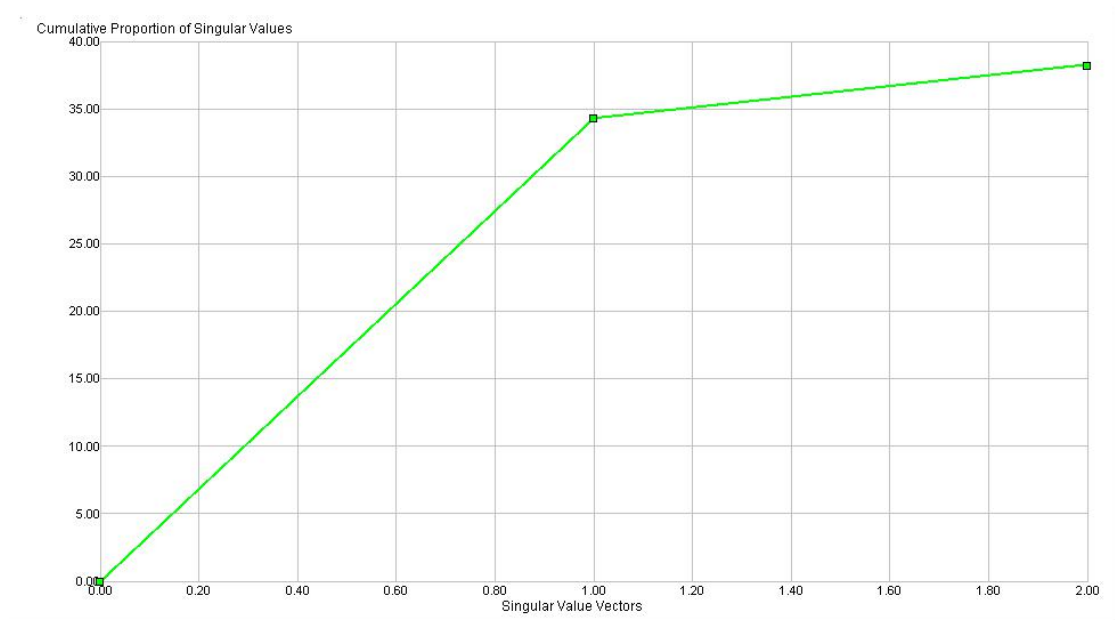
a. SVD (Singular Value Decomposition)

   i. Nilai Eigenvalue

Component	Singular Value	Proportion of Singular Values	Cumulative Singular Values	Cumulative Proportion of Sin...
SVD 1	34.340	0.898	34.340	0.898
SVD 2	3.906	0.102	38.246	1.000

   ii. Nilai SVD Vectors

Attribute	SVD Vector 1
B.IND	0.723
B.ING	0.690

   iii. Nilai Cumulative Variance

b. ExampleSet (k-Means)

Clustering

c. ExampleSet (SVD)

Row No.	NAMA	cluster ↑	svd_1
1	JOKO	cluster_0	0.349
3	SUSI	cluster_0	0.315
7	EKO	cluster_0	0.317
9	WAWAN	cluster_0	0.353
10	MAHMUD	cluster_0	0.399
4	DYAH	cluster_1	0.256
5	WATI	cluster_1	0.235
8	YANTO	cluster_1	0.254
2	AGUS	cluster_2	0.347
6	IKA	cluster_2	0.299

d. Cluster Model (Clustering)
   i.   Description

Cluster Model

```
Cluster 0: 5 items
Cluster 1: 3 items
Cluster 2: 2 items
Total number of items: 10
```
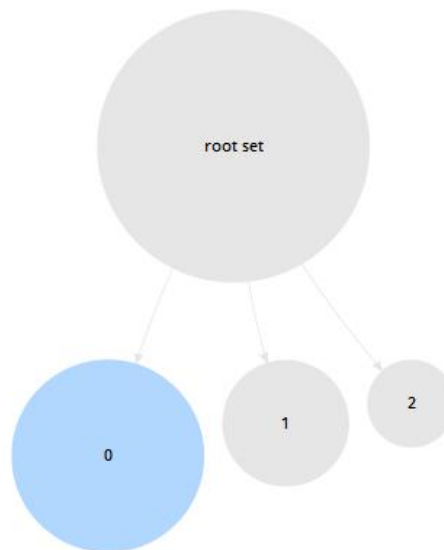
   ii. Graph