Nama : Rima Dwi Novika

NIM : L200170044

Kelas : B

MODUL 10

Tugas

1. Membuat tabel dan mengisi daftar nilai dalam tabel

	A	B	C	D	E	F
1	**NO_SISWA**	**NAMA**	**B.IND**	**B.ING**	**MTK**	**IPA**
2	S-101	JOKO	9,614591	6,16921	5,032877	6,427933
3	S-102	AGUS	6,878795	5,566158	8,728699	6,278169
4	S-103	SUSI	5,965179	8,214616	8,839693	7,21129
5	S-104	DYAH	8,227455	6,150243	9,993913	5,475834
6	S-105	WATI	7,737012	8,156474	7,041902	8,200734
7	S-106	IKA	7,32149	5,16566	5,852753	7,401254
8	S-107	EKO	8,039714	9,311685	9,274001	7,024796
9	S-108	YANTO	9,127672	9,299555	6,427703	7,387804
10	S-109	WAWAN	8,19904	7,677059	6,977216	6,797989
11	S-110	MAHMUD	5,372238	6,846026	5,700649	9,965502
12	S-111	BUDI	6,758975	6,974261	8,610256	6,902662
13	S-112	SANTI	7,620446	6,357188	9,548382	9,287948
14	S-113	DIAN	9,403547	5,824465	5,633037	5,090908
15	S-114	DANI	6,364049	9,069068	5,059245	6,660267
16	S-115	AHMAD	7,732089	8,365577	8,092492	8,728945
17	S-116	BAYU	9,139486	7,092177	8,642348	7,236848
18	S-117	RISA	7,38874	6,734609	9,339675	8,322403
19	S-118	RANI	8,738915	5,73577	8,20312	5,257188
20	S-119	YANI	7,288794	7,797071	8,905553	8,620658
21	S-120	RATIH	7,473897	9,882226	6,787557	7,86793
22	S-121	INDAH	6,611861	7,929852	5,77459	6,242802
23	S-122	JONO	6,530295	7,682273	7,150075	7,929659
24	S-123	SARAH	5,378342	6,25127	6,384469	8,792469
25	S-124	RAMA	5,14332	5,983147	5,29512	6,21335
26	S-125	BAMBANG	8,861086	5,314014	7,170561	5,176568
27	S-126	HADI	5,790763	9,368589	5,42408	7,529709
28	S-127	NANA	8,019324	6,164227	8,595004	5,827853
29	S-128	FEBRI	9,63861	5,549301	7,578907	8,579821
30	S-129	DENI	8,714299	9,748743	6,520612	9,476324
31	S-130	TONI	8,351183	9,92891	8,535906	7,880284
32						

2. Melakukan kegiatan 10.4.1 dan 10.4.2 dengan ketentuan jumlah cluster = 4

Kegiatan 10.4.1

a. SVD (Singular Value Decomposition)

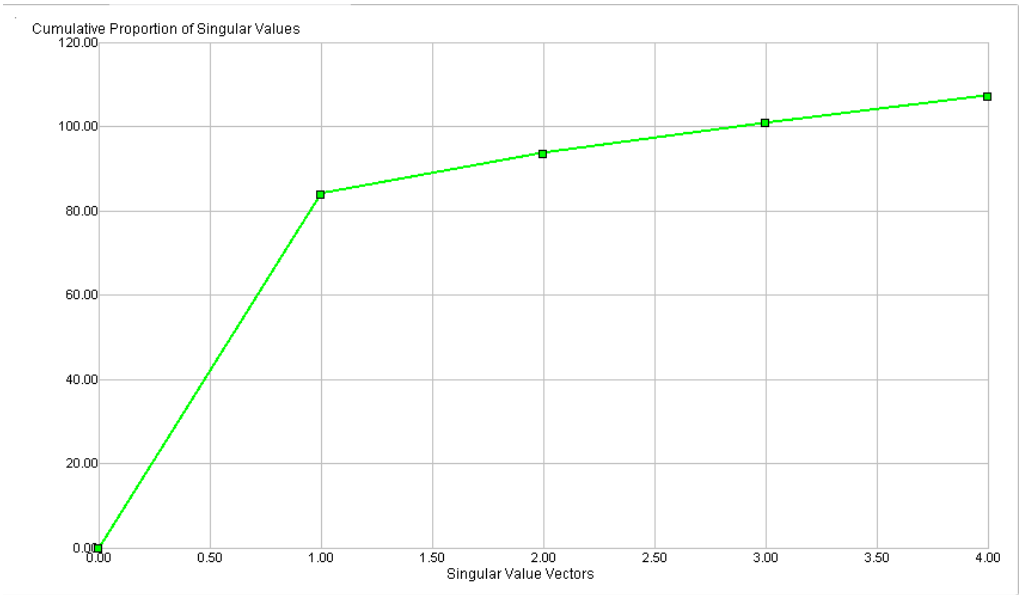
i. Nilai Eigenvalue

Component	Singular Value	Proportion of Singular V...	Cumulative Singular Val...	Cumulative Proportion o...
SVD 1	84.170	0.783	84.170	0.783
SVD 2	9.621	0.090	93.791	0.873
SVD 3	7.244	0.067	101.035	0.940
SVD 4	6.404	0.060	107.438	1.000

ii. Nilai Svd Vectors

Attribute	SVD Vector 1	SVD Vector 2	SVD Vector 3
B.IND	0.507	-0.737	0.268
B.ING	0.507	0.637	0.013
MTK	0.489	0.205	0.528
IPA	0.497	-0.100	-0.806

iii. Nilai Cummulative Variance



b. ExampleSet (k-Means)

Plotter = Scatter
x-Axis = cluster
y-Axis = B.IND, B.ING, MTK, IPA
color Column = cluster
Jitter = bisa diubah-ubah untuk melihat distribusi data secara lebih detil

c. ExampleSet (SVD)

Row No.	NAMA	cluster	svd_1
1	JOKO	cluster_1	0.156
2	AGUS	cluster_1	0.175
3	SUSI	cluster_2	0.172
4	DYAH	cluster_2	0.184
5	WATI	cluster_2	0.159
6	IKA	cluster_3	0.200
7	EKO	cluster_0	0.183
8	YANTO	cluster_0	0.195
9	WAWAN	cluster_0	0.201
10	MAHMUD	cluster_2	0.163
11	BUDI	cluster_1	0.155
12	SANTI	cluster_2	0.161
13	DIAN	cluster_2	0.190
14	DANI	cluster_3	0.181
15	AHMAD	cluster_2	0.169
16	BAYU	cluster_0	0.196
17	RISA	cluster_3	0.201
18	RANI	cluster_0	0.193
19	YANI	cluster_0	0.210
20	RATIH	cluster_2	0.186
21	INDAH	cluster_0	0.189
22	JONO	cluster_3	0.195
23	SARAH	cluster_1	0.162
24	RAMA	cluster_1	0.131
25	BAMBANG	cluster_0	0.203
26	HADI	cluster_0	0.204
27	NANA	cluster_3	0.195
28	FEBRI	cluster_0	0.206
29	DENI	cluster_2	0.159
30	TONI	cluster_2	0.172

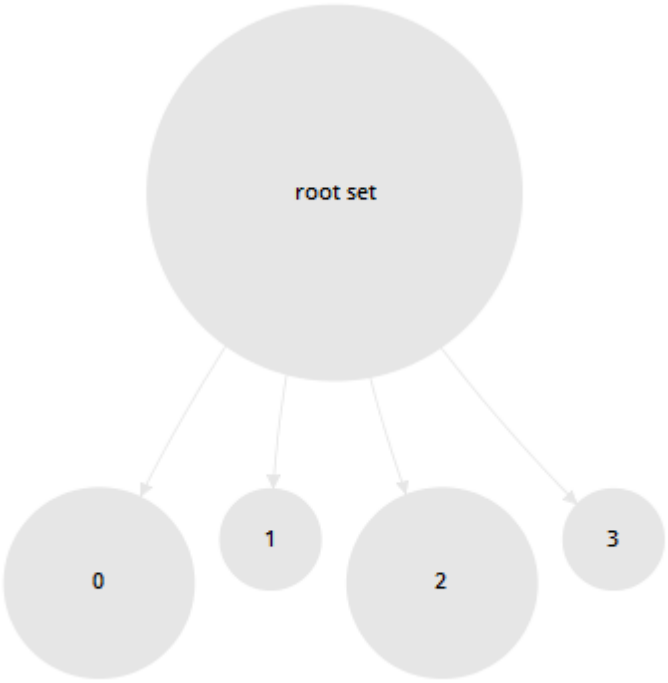
d. Cluster Model (Clustering)

i. Description

Cluster Model

```
Cluster 0: 10 items
Cluster 1: 5 items
Cluster 2: 10 items
Cluster 3: 5 items
Total number of items: 30
```

ii. Graph



3. Nama siswa yang masuk pada tiap cluster

Cluster 0	Cluster 1	Cluster 2	Cluster 3
1. EKO	1. JOKO	1. SUSI	1. IKA
2. YANTO	2. AGUS	2. DYAH	2. DANI
3. WAWAN	3. BUDI	3. WATI	3. RISA
4. BAYU	4. SARAH	4. MAHMUD	4. JONO
5. RANI	5. RAMA	5. SANTI	5. NANA
6. YANI		6. DIAN	
7. INDAH		7. AHMAD	
8. BAMBANG		8. RATIH	
9. HADI		9. DENI	
10. FEBRI		10. TONI	