

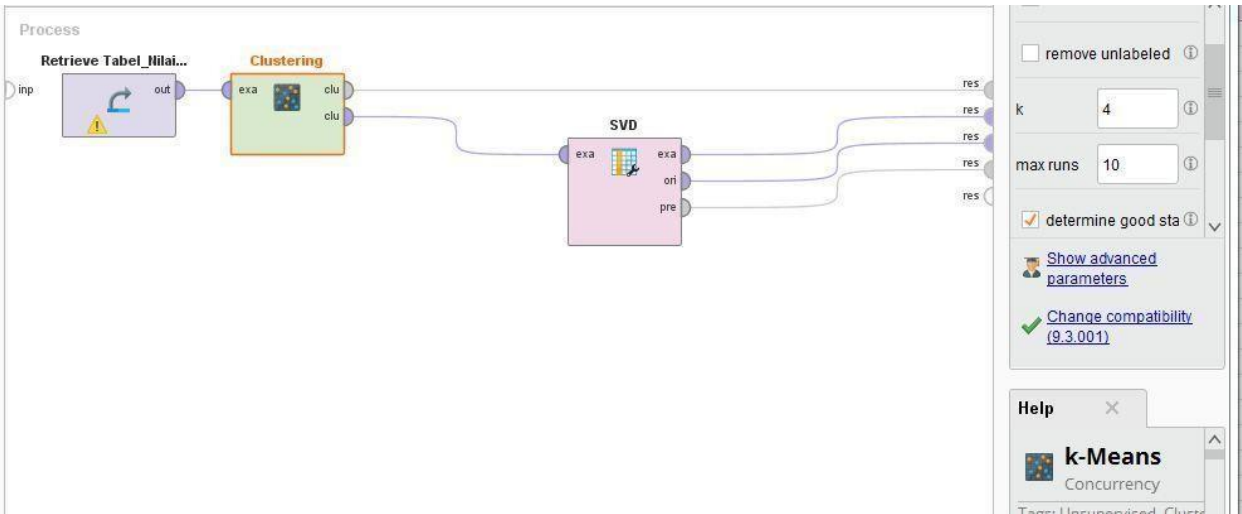
Nama : Helmi Lutfian
 NIM : L200170055
 Kelas :C

TUGAS

Excel

| | A | B | C | D | E | F | G | H |
|----|----------|---------|-------|-------|------|------|---|---|
| 1 | NO_SISWA | NAMA | B.IND | B.ING | MTK | IPA | | |
| 2 | S-101 | JOKO | 8.52 | 9.63 | 8.39 | 9.47 | | |
| 3 | S-102 | AGUS | 6.33 | 6.43 | 8.77 | 6.66 | | |
| 4 | S-103 | SUSI | 6.29 | 9.15 | 7.56 | 6.28 | | |
| 5 | S-104 | DYAH | 5.24 | 9.84 | 5.21 | 9.92 | | |
| 6 | S-105 | WATI | 8.24 | 8.71 | 5.62 | 9.90 | | |
| 7 | S-106 | IKA | 8.39 | 6.36 | 8.20 | 5.68 | | |
| 8 | S-107 | EKO | 8.22 | 6.58 | 8.51 | 9.97 | | |
| 9 | S-108 | YANTO | 8.14 | 7.58 | 6.12 | 9.20 | | |
| 10 | S-109 | WAWAN | 9.01 | 6.00 | 7.18 | 6.77 | | |
| 11 | S-110 | MAHMUD | 8.18 | 9.66 | 7.12 | 9.21 | | |
| 12 | S-111 | BUDI | 8.01 | 7.77 | 8.34 | 7.19 | | |
| 13 | S-112 | SANTI | 6.39 | 7.24 | 6.62 | 9.10 | | |
| 14 | S-113 | DIAN | 5.83 | 5.20 | 8.01 | 7.90 | | |
| 15 | S-114 | DANI | 8.60 | 7.29 | 8.86 | 5.11 | | |
| 16 | S-115 | AHMAD | 6.19 | 9.43 | 6.70 | 6.74 | | |
| 17 | S-116 | BAYU | 9.39 | 7.56 | 9.11 | 5.70 | | |
| 18 | S-117 | RISA | 8.93 | 9.35 | 6.62 | 8.42 | | |
| 19 | S-118 | RANI | 8.04 | 6.34 | 5.80 | 5.23 | | |
| 20 | S-119 | YANI | 7.04 | 5.40 | 6.31 | 9.44 | | |
| 21 | S-120 | RATIH | 6.07 | 7.08 | 9.81 | 5.48 | | |
| 22 | S-121 | INDAH | 6.40 | 9.29 | 7.49 | 9.85 | | |
| 23 | S-122 | JONO | 8.59 | 6.77 | 7.34 | 8.74 | | |
| 24 | S-123 | SARAH | 5.93 | 6.33 | 7.60 | 7.62 | | |
| 25 | S-124 | RAMA | 7.96 | 6.03 | 8.51 | 9.94 | | |
| 26 | S-125 | BAMBANG | 5.13 | 8.79 | 5.17 | 7.78 | | |
| 27 | S-126 | HADI | 7.02 | 6.78 | 7.43 | 9.51 | | |
| 28 | S-127 | NANA | 6.85 | 6.79 | 6.47 | 5.91 | | |
| 29 | S-128 | FEBRI | 9.68 | 6.39 | 6.66 | 8.03 | | |
| 30 | S-129 | DENI | 7.93 | 6.29 | 5.69 | 5.06 | | |
| 31 | S-130 | TONI | 6.59 | 6.27 | 5.63 | 6.14 | | |
| 32 | | | | | | | | |

Design

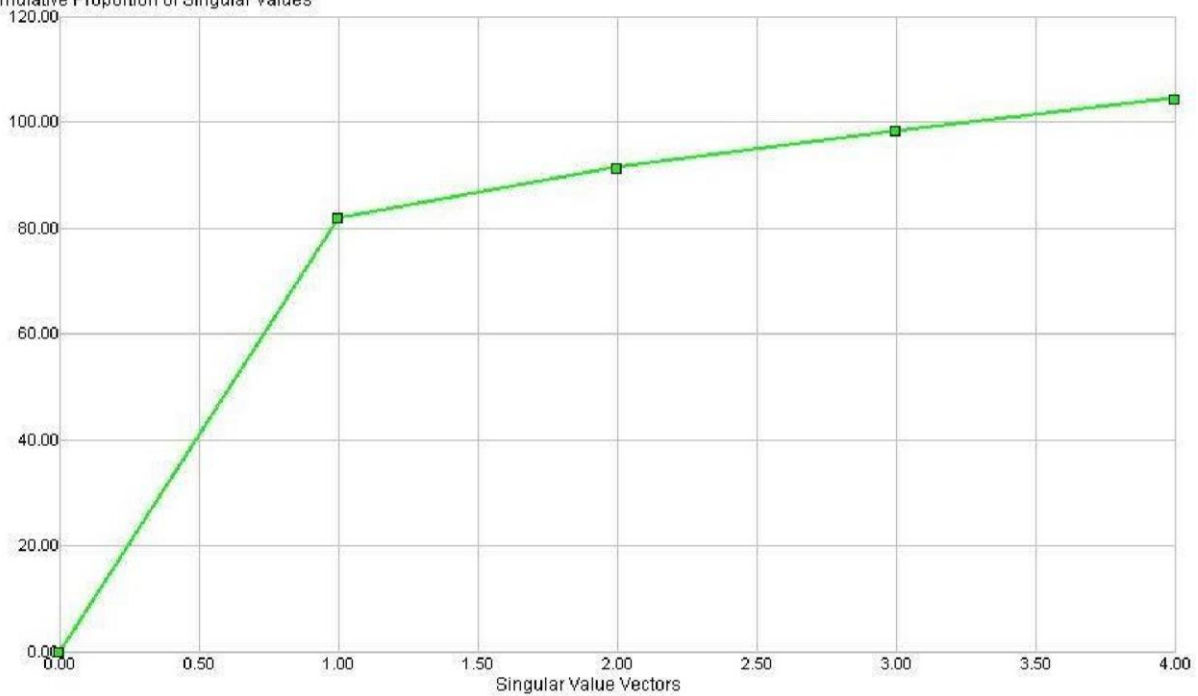


SVD

| Component | Singular Value | Proportion of Singular V... | Cumulative Singular Val... | Cumulative Proportion o... |
|-----------|----------------|-----------------------------|----------------------------|----------------------------|
| SVD 1 | 82.021 | 0.785 | 82.021 | 0.785 |
| SVD 2 | 9.404 | 0.090 | 91.425 | 0.875 |
| SVD 3 | 7.041 | 0.067 | 98.466 | 0.942 |
| SVD 4 | 6.012 | 0.058 | 104.478 | 1.000 |

| Attribute | SVD Vector 1 | SVD Vector 2 | SVD Vector 3 |
|-----------|--------------|--------------|--------------|
| B.IND | 0.498 | -0.448 | -0.201 |
| B.ING | 0.497 | 0.299 | 0.812 |
| MTK | 0.483 | -0.542 | -0.038 |
| IPA | 0.521 | 0.645 | -0.547 |

Cumulative Proportion of Singular Values



Example Set

- B.indo



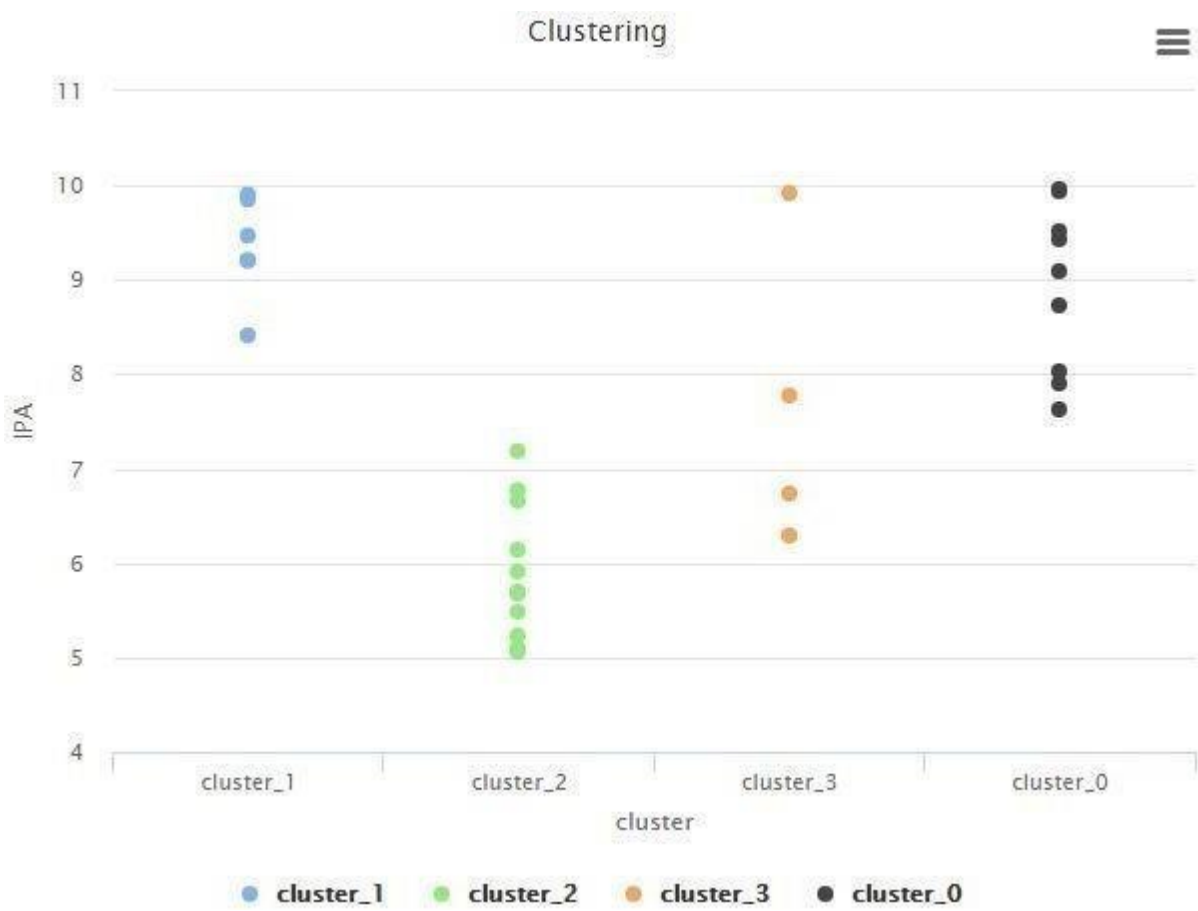
B.ING



MTK



IPA



ExampleSet (SVD)

| Row No. | NAMA | cluster | svd_1 |
|---------|--------|-----------|-------|
| 1 | JOKO | cluster_1 | 0.220 |
| 2 | AGUS | cluster_2 | 0.171 |
| 3 | SUSI | cluster_3 | 0.178 |
| 4 | DYAH | cluster_3 | 0.185 |
| 5 | WATI | cluster_1 | 0.199 |
| 6 | IKA | cluster_2 | 0.174 |
| 7 | EKO | cluster_0 | 0.203 |
| 8 | YANTO | cluster_1 | 0.190 |
| 9 | WAWAN | cluster_2 | 0.176 |
| 10 | MAHMUD | cluster_1 | 0.209 |
| 11 | BUDI | cluster_2 | 0.190 |
| 12 | SANTI | cluster_0 | 0.179 |

| Row No. | NAMA | cluster | svd_1 |
|---------|-------|-----------|-------|
| 13 | DIAN | cluster_0 | 0.164 |
| 14 | DANI | cluster_2 | 0.181 |
| 15 | AHMAD | cluster_3 | 0.177 |
| 16 | BAYU | cluster_2 | 0.193 |
| 17 | RISA | cluster_1 | 0.203 |
| 18 | RANI | cluster_2 | 0.155 |
| 19 | YANI | cluster_0 | 0.173 |
| 20 | RATIH | cluster_2 | 0.172 |
| 21 | INDAH | cluster_1 | 0.202 |
| 22 | JONO | cluster_0 | 0.192 |
| 23 | SARAH | cluster_0 | 0.168 |
| 24 | RAMA | cluster_0 | 0.198 |

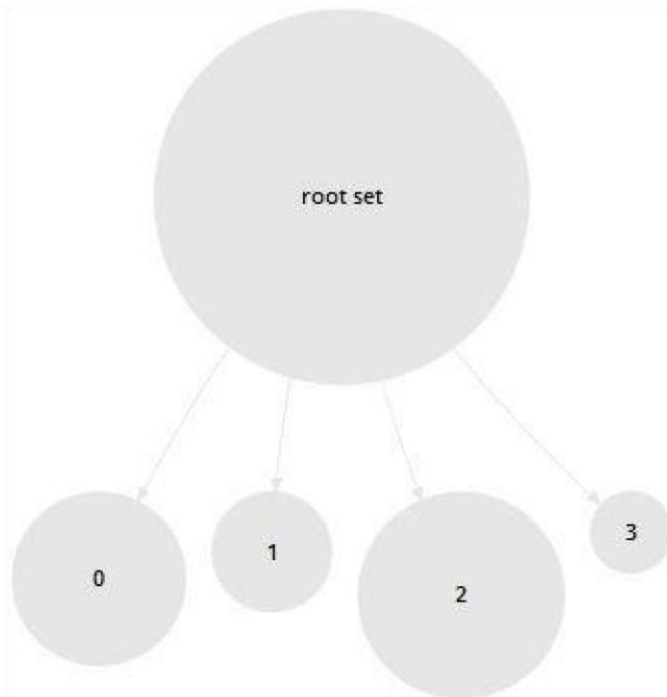
| | | | |
|----|---------|-----------|-------|
| 24 | RAMA | cluster_0 | 0.198 |
| 25 | BAMBANG | cluster_3 | 0.164 |
| 26 | HADI | cluster_0 | 0.188 |
| 27 | NANA | cluster_2 | 0.158 |
| 28 | FEBRI | cluster_0 | 0.188 |
| 29 | DENI | cluster_2 | 0.152 |
| 30 | TONI | cluster_2 | 0.150 |

ExampleSet (30 examples, 2 special attributes, 1 regular attribute)

Cluster Model(Clustering)

Cluster Model

```
Cluster 0: 9 items  
Cluster 1: 6 items  
Cluster 2: 11 items  
Cluster 3: 4 items  
Total number of items: 30
```



K-Means (HASIL)

| Row No. | NAMA | cluster ↑ | B.IND | B.ING | MTK | IPA |
|---------|-------|-----------|-------|-------|-------|-------|
| 7 | EKO | cluster_0 | 8.219 | 6.579 | 8.513 | 9.966 |
| 12 | SANTI | cluster_0 | 6.386 | 7.241 | 6.619 | 9.098 |
| 13 | DIAN | cluster_0 | 5.829 | 5.199 | 8.013 | 7.895 |
| 19 | YANI | cluster_0 | 7.036 | 5.404 | 6.306 | 9.439 |
| 22 | JONO | cluster_0 | 8.590 | 6.770 | 7.335 | 8.736 |
| 23 | SARAH | cluster_0 | 5.934 | 6.333 | 7.598 | 7.620 |
| 24 | RAMA | cluster_0 | 7.962 | 6.029 | 8.510 | 9.941 |
| 26 | HADI | cluster_0 | 7.016 | 6.779 | 7.434 | 9.512 |
| 28 | FEBRI | cluster_0 | 9.682 | 6.385 | 6.657 | 8.031 |
| 1 | JOKO | cluster_1 | 8.523 | 9.628 | 8.391 | 9.469 |
| 5 | WATI | cluster_1 | 8.237 | 8.710 | 5.621 | 9.902 |
| 8 | YANTO | cluster_1 | 8.142 | 7.579 | 6.119 | 9.203 |

| Row No. | NAMA | cluster ↑ | B.IND | B.ING | MTK | IPA |
|---------|--------|-----------|-------|-------|-------|-------|
| 10 | MAHMUD | cluster_1 | 8.184 | 9.657 | 7.124 | 9.210 |
| 17 | RISA | cluster_1 | 8.932 | 9.348 | 6.623 | 8.417 |
| 21 | INDAH | cluster_1 | 6.397 | 9.286 | 7.491 | 9.851 |
| 2 | AGUS | cluster_2 | 6.326 | 6.429 | 8.772 | 6.658 |
| 6 | IKA | cluster_2 | 8.392 | 6.359 | 8.204 | 5.678 |
| 9 | WAWAN | cluster_2 | 9.013 | 6.004 | 7.178 | 6.773 |
| 11 | BUDI | cluster_2 | 8.010 | 7.766 | 8.342 | 7.186 |
| 14 | DANI | cluster_2 | 8.595 | 7.290 | 8.856 | 5.106 |
| 16 | BAYU | cluster_2 | 9.393 | 7.557 | 9.112 | 5.701 |
| 18 | RANI | cluster_2 | 8.039 | 6.341 | 5.803 | 5.229 |
| 20 | RATIH | cluster_2 | 6.070 | 7.081 | 9.808 | 5.484 |
| 27 | NANA | cluster_2 | 6.853 | 6.786 | 6.471 | 5.910 |

| | | | | | | |
|----|---------|-----------|-------|-------|-------|-------|
| 29 | DENI | cluster_2 | 7.935 | 6.292 | 5.692 | 5.060 |
| 30 | TONI | cluster_2 | 6.587 | 6.269 | 5.632 | 6.141 |
| 3 | SUSI | cluster_3 | 6.294 | 9.147 | 7.565 | 6.283 |
| 4 | DYAH | cluster_3 | 5.240 | 9.838 | 5.206 | 9.919 |
| 15 | AHMAD | cluster_3 | 6.192 | 9.428 | 6.700 | 6.738 |
| 25 | BAMBANG | cluster_3 | 5.129 | 8.788 | 5.167 | 7.775 |