| DATA | INDEX KEMISKINAN (X) | INDEX KEPARAHAN n (Y) |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 4 | 1 |
| 3 | 6 | 1 |
| 4 | 1 | 2 |
| 5 | 2 | 3 |
| 6 | 5 | 3 |
| 7 | 2 | 5 |
| 8 | 3 | 5 |
| 9 | 2 | 6 |
| 10 | 3 | 8 |

| Langkah 1 menentukan centroid | | |
|---|---|---|
| Data | X | Y |
| 2 | 4 | 1 |
| 4 | 1 | 2 |
| 6 | 5 | 3 |

21.230.0079

Muhammad Ferdynan Ali Syahbana

1. hitung jarak tiap data terhadap centroid **INTERASI 1**

| Data | X | Y | C1 | C2 | C3 | Min | Cluster |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 3 | 1 | 4,472136 | 1 | C2 |
| 2 | 4 | 1 | 0 | 3,162278 | 2,236068 | 0 | C1 |
| 3 | 6 | 1 | 2 | 5,09902 | 2,236068 | 2 | C1 |
| 4 | 1 | 2 | 3,162278 | 0 | 4,123106 | 0 | C2 |
| 5 | 2 | 3 | 2,828427 | 1,414214 | 3 | 1,414214 | C2 |
| 6 | 5 | 3 | 2,236068 | 4,123106 | 0 | 0 | C3 |
| 7 | 2 | 5 | 4,472136 | 3,162278 | 3,605551 | 3,162278 | C2 |
| 8 | 3 | 5 | 4,123106 | 3,605551 | 2,828427 | 2,828427 | C3 |
| 9 | 2 | 6 | 5,385165 | 4,123106 | 4,242641 | 4,123106 | C2 |
| 10 | 3 | 8 | 7,071068 | 6,324555 | 5,385165 | 5,385165 | C3 |

hitung jarak tiap data terhadap centroid
kelompokkan data ke centroid terdekat
tentukan centroid baru tiap cluster        entroid baru
kembali menghitung jika posisi cluster beda

| Data | X | Y |
|---|---|---|
| C1 | 5 | 1 |
| C2 | 1,6 | 3,4 |
| C3 | 3,666667 | 5,333333 |

| Langkah 1 menentukan centroid | | |
|---|---|---|
| Data | X | Y |
| 2 | 4 | 1 |
| 4 | 1 | 2 |
| 6 | 5 | 3 |

| C1 | Data | X | Y |
|---|---|---|---|
| | 2 | 4 | 1 |
| | 3 | 6 | 1 |
| | RATA | 5 | 1 |
| C2 | Data | X | Y |
| | 1 | 1 | 1 |
| | 4 | 1 | 2 |
| | 5 | 2 | 3 |
| | 7 | 2 | 5 |
| | 9 | 2 | 6 |
| | RATA | 1,6 | 3,4 |
| C3 | Data | X | Y |
| | 6 | 5 | 3 |
| | 8 | 3 | 5 |
| | 10 | 3 | 8 |
| | RATA | 3,666667 | 5,333333 |

2. hitung jarak tiap data terhadap centroid **INTERASI 2**

| Data | X | Y | C1 | C2 | C3 | Min | Cluster | Ket |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 4 | 2,473863 | 5,088112 | 2,473863 | C2 | sama |
| 2 | 4 | 1 | 1 | 3,394113 | 4,346135 | 1 | C1 | sama |
| 3 | 6 | 1 | 1 | 5,011986 | 4,921607 | 1 | C1 | sama |
| 4 | 1 | 2 | 4,123106 | 1,523155 | 4,268749 | 1,523155 | C2 | sama |
| 5 | 2 | 3 | 3,605551 | 0,565685 | 2,867442 | 0,565685 | C2 | sama |
| 6 | 5 | 3 | 2 | 3,423449 | 2,687419 | 2 | C1 | beda |
| 7 | 2 | 5 | 5 | 1,649242 | 1,699673 | 1,649242 | C2 | sama |
| 8 | 3 | 5 | 4,472136 | 2,126029 | 0,745356 | 0,745356 | C3 | sama |
| 9 | 2 | 6 | 5,830952 | 2,630589 | 1,795055 | 1,795055 | C3 | beda |
| 10 | 3 | 8 | 7,28011 | 4,808326 | 2,748737 | 2,748737 | C3 | sama |

hitung jarak tiap data terhadap centroid
kelompokkan data ke centroid terdekat
tentukan centroid baru tiap cluster      entroid baru
kembali menghitung jika posisi cluster beda

| Data | X | Y |
|---|---|---|
| C1 | 5 | 1,666667 |
| C2 | 1,5 | 2,75 |
| C3 | 2,666667 | 6,333333 |

| Langkah 1 menentukan centroid | | |
|---|---|---|
| Data | X | Y |
| 2 | 5 | 1 |
| 4 | 1,6 | 3,4 |
| 6 | 3,666667 | 5,333333 |

| C1 | Data | X | Y |
|---|---|---|---|
| | 2 | 4 | 1 |
| | 3 | 6 | 1 |
| | 6 | 5 | 3 |
| | RATA | 5 | 1,666667 |
| C2 | Data | X | Y |
| | 1 | 1 | 1 |
| | 4 | 1 | 2 |
| | 5 | 2 | 3 |
| | 7 | 2 | 5 |
| | RATA | 1,5 | 2,75 |

| C3 | Data | X | Y |
|---|---|---|---|
| | 8 | 3 | 5 |
| | 9 | 2 | 6 |
| | 10 | 3 | 8 |
| | RATA | 2,666667 | 6,333333 |

3. hitung jarak tiap data terhadap centroid          INTERASI 3

| Data | X | Y | C1 | C2 | C3 | Min | Cluster | Ket |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 4,055175 | 1,820027 | 5,5876847 | 1,820027 | C2 | sama |
| 2 | 4 | 1 | 1,201851 | 3,051639 | 5,4974738 | 1,201851 | C1 | sama |
| 3 | 6 | 1 | 1,201851 | 4,828302 | 6,2893203 | 1,201851 | C1 | sama |
| 4 | 1 | 2 | 4,013865 | 0,901388 | 4,6427959 | 0,901388 | C2 | sama |
| 5 | 2 | 3 | 3,282952 | 0,559017 | 3,3993461 | 0,559017 | C2 | sama |
| 6 | 5 | 3 | 1,333333 | 3,508917 | 4,0688514 | 1,333333 | C1 | sama |
| 7 | 2 | 5 | 4,484541 | 2,304886 | 1,4907118 | 1,490712 | C3 | beda |
| 8 | 3 | 5 | 3,887301 | 2,704163 | 1,3743681 | 1,374368 | C3 | sama |
| 9 | 2 | 6 | 5,270462 | 3,288237 | 0,7453561 | 0,745356 | C3 | sama |
| 10 | 3 | 8 | 6,641619 | 5,460082 | 1,6996734 | 1,699673 | C3 | sama |

hitung jarak tiap data terhadap centroid
kelompokkan data ke centroid terdekat
tentukan centroid baru tiap cluster          entroid baru
kembali menghitung jika posisi cluster beda

| Data | X | Y |
|---|---|---|
| C1 | 5 | 1,666667 |
| C2 | 1,333333 | 2 |
| C3 | 2,5 | 6 |

| Langkah 1 menentukan centroid | | |
|---|---|---|
| Data | X | Y |
| 2 | 5 | 1,666667 |
| 4 | 1,5 | 2,75 |
| 6 | 2,666667 | 6,333333 |

| C1 | Data | X | Y |
|---|---|---|---|
| | 2 | 4 | 1 |
| | 3 | 6 | 1 |
| | 6 | 5 | 3 |
| | RATA | 5 | 1,666667 |
| C2 | Data | X | Y |
| | 1 | 1 | 1 |
| | 4 | 1 | 2 |
| | 5 | 2 | 3 |
| | RATA | 1,333333 | 2 |

| C3 | Data | X | Y |
|---|---|---|---|
| | 7 | 2 | 5 |
| | 8 | 3 | 5 |
| | 9 | 2 | 6 |
| | 10 | 3 | 8 |
| | RATA | 2,5 | 6 |

4. hitung jarak tiap data terhadap centroid        INTERASI 4

| Data | X | Y | C1 | C2 | C3 | Min | Cluster | Ket |
|------|---|---|----|----|----|-----|---------|-----|
| 1 | 1 | 1 | 4,055175 | 1,054092 | 5,220153 | 1,054092 | C2 | sama |
| 2 | 4 | 1 | 1,201851 | 2,848002 | 5,220153 | 1,201851 | C1 | sama |
| 3 | 6 | 1 | 1,201851 | 4,772607 | 6,103278 | 1,201851 | C1 | sama |
| 4 | 1 | 2 | 4,013865 | 0,333333 | 4,272002 | 0,333333 | C2 | sama |
| 5 | 2 | 3 | 3,282952 | 1,201851 | 3,041381 | 1,201851 | C2 | sama |
| 6 | 5 | 3 | 1,333333 | 3,800585 | 3,905125 | 1,333333 | C1 | sama |
| 7 | 2 | 5 | 4,484541 | 3,073182 | 1,118034 | 1,118034 | C3 | sama |
| 8 | 3 | 5 | 3,887301 | 3,431877 | 1,118034 | 1,118034 | C3 | sama |
| 9 | 2 | 6 | 5,270462 | 4,055175 | 0,5 | 0,5 | C3 | sama |
| 10 | 3 | 8 | 6,641619 | 6,227181 | 2,061553 | 2,061553 | C3 | sama |

hitung jarak tiap data terhadap centroid  
kelompokkan data ke centroid terdekat        21.230.0079  
posisi cluster sudah sama        Muhammad Ferdynan Ali Syahbana

| Langkah 1 menentukan centroid | | |
|------|---|---|
| Data | X | Y |
| 2 | 5 | 1,666667 |
| 4 | 1,333333 | 2 |
| 6 | 2,5 | 6 |