|  |  |
| --- | --- |
| **K - value** | **SSE value** |
| 3 | 1.9106916708959663 |
| 5 | 1.4172047226600342 |
| 7 | 1.2276799653107224 |
| 10 | 0.7483453359109914 |
| 15 | 0.5135412599406143 |

Detailed values k and corresponding point ids :

**<cluster-id> - <List of points ids separated by comma>**

**K: 3**

**The points in k= 1 classifier are**

**1 2 6 8 10 12 13 17 19 20 24 27 29 34 38 39 41 51 53 54 55 57 58 61 63 65 73 75 77 78 85 88 89 93 94 97 98 99**

**The points in k= 2 classifier are**

**3 4 11 14 16 18 21 22 25 26 28 32 33 36 37 40 42 48 50 52 56 59 60 64 68 69 70 71 72 74 80 82 83 84 91 92 95 96 100**

**The points in k= 3 classifier are**

**5 7 9 15 23 30 31 35 43 44 45 46 47 49 62 66 67 76 79 81 86 87 90**

**the value of sse is 1.9106916708959663**

**K: 5**

**The points in k= 1 classifier are**

**5 7 9 15 23 30 31 35 43 44 45 46 47 49 62 66 67 76 79 81 86 87 90**

**The points in k= 2 classifier are**

**3 4 14 16 18 21 25 26 33 40 42 50 56 59 60 64 69 74 80 84 91 100**

**The points in k= 3 classifier are**

**1 2 8 17 53 57 61 65 94 98 99**

**The points in k= 4 classifier are**

**6 10 12 13 19 20 24 27 29 34 38 39 41 51 54 55 58 63 73 75 77 78 85 88 89 93 97**

**The points in k= 5 classifier are**

**11 22 28 32 36 37 48 52 68 70 71 72 82 83 92 95 96**

**the value of sse is 1.3613256816036792**

**K: 7**

**The points in k= 1 classifier are**

**11 14 18 21 22 25 26 28 33 36 37 40 42 48 50 68 69 70 71 72 74 80 82 83 84 91 92 95 96 100**

**The points in k= 2 classifier are**

**5 31 79**

**The points in k= 3 classifier are**

**1 2 6 8 10 12 13 17 19 20 24 27 29 34 39 41 51 53 54 55 57 58 61 63 65 73 75 77 78 85 88 89 93 94 97 98 99**

**The points in k= 4 classifier are**

**9 66**

**The points in k= 5 classifier are**

**3 4 16 32 38 52 56 59 60 64**

**The points in k= 6 classifier are**

**23 30 35 44 45 46 47 49 76 86 90**

**The points in k= 7 classifier are**

**7 15 43 62 67 81 87**

**the value of sse is 1.377269340084459**

**K: 10**

**The points in k= 1 classifier are**

**7 62 87**

**The points in k= 2 classifier are**

**1 8 17 94 98 99**

**The points in k= 3 classifier are**

**10 73 85 89**

**The points in k= 4 classifier are**

**23 30 44 45 46 47 49 86 90**

**The points in k= 5 classifier are**

**3 4 11 14 18 21 22 25 26 28 32 33 36 37 40 42 48 50 60 64 68 69 70 71 72 74 80 82 83 84 91 92 95 96 100**

**The points in k= 6 classifier are**

**5 31 35 43 67 79**

**The points in k= 7 classifier are**

**12 19 20 27 41 54 55 75 77 78 88 93**

**The points in k= 8 classifier are**

**6 16 38 52 56 59 97**

**The points in k= 9 classifier are**

**2 13 24 29 34 39 51 53 57 58 61 63 65**

**The points in k= 10 classifier are**

**9 15 66 76 81**

**the value of sse is 0.9436010582439899**

**K: 15**

**The points in k= 1 classifier are**

**4 11 22 32 52 60 64 68 70 71 92**

**The points in k= 2 classifier are**

**10 19 27 41 54 55 73 77 78 85 88 89**

**The points in k= 3 classifier are**

**16 18 21 25 26 33 40 42 50 69 74 80 84 91 100**

**The points in k= 4 classifier are**

**2 53 57 61 65**

**The points in k= 5 classifier are**

**1 8 17 94 98 99**

**The points in k= 6 classifier are**

**38 56 59**

**The points in k= 7 classifier are**

**7 62 87**

**The points in k= 8 classifier are**

**9 44 49 66 76 90**

**The points in k= 9 classifier are**

**28 36 37 48 72 82 83 95 96**

**The points in k= 10 classifier are**

**15 23 30 35 45 46 47 67 81 86**

**The points in k= 11 classifier are**

**The points in k= 12 classifier are**

**5 43**

**The points in k= 13 classifier are**

**24 29 34 39 51 58 63**

**The points in k= 14 classifier are**

**6 12 13 20 75 93 97**

**The points in k= 15 classifier are**

**31 79**

**the value of sse is 0.5135412599406143**