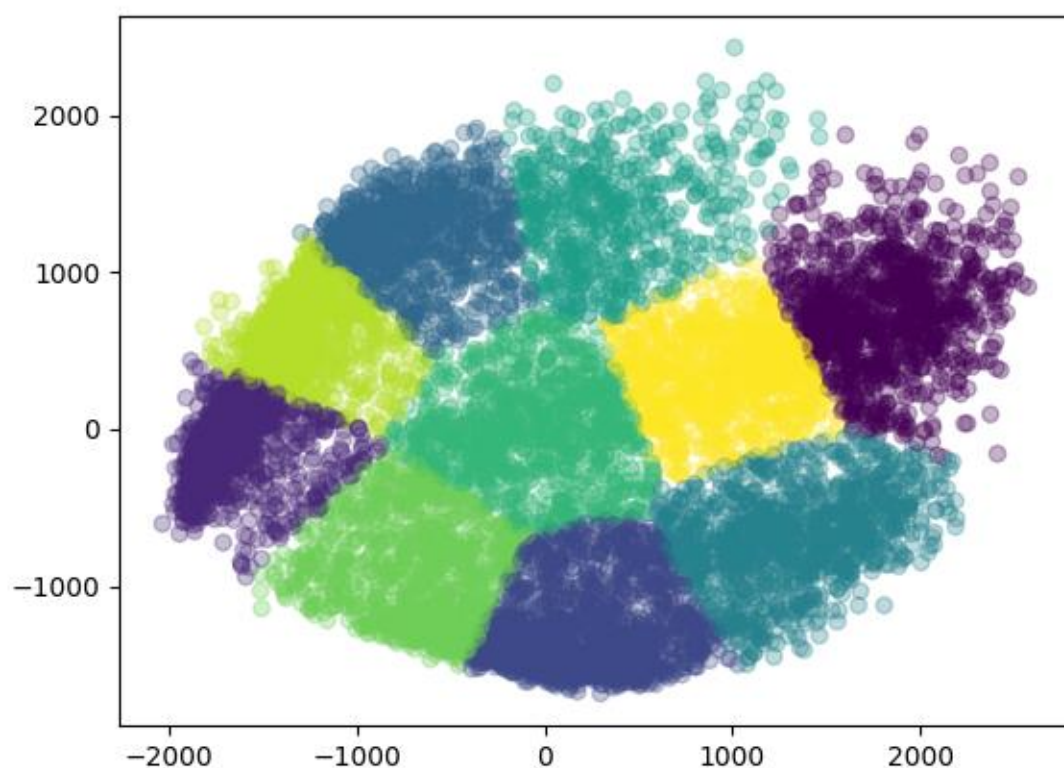


Figure 1



```
===== RESTART: C:\Users\suew1\Documents\git\jh-git\kmeans_clustering
Data Loading Complete
PCA output shape = (60000, 2) (10000, 2)
```

```
====Train data====
cloth  0  1  2  3  4  5  6  7  8  9
row_0
0      226  25 2265  31 2205  0 1251  0 250  2
1      42   2  159  3  65 3804 178 2651 159 68
2     1013 4412  13 2763 231  1 318  0  14  1
3       6   1   7  0  5  250 14 409 1057 3446
4     2926 183 118 1457 764  1 806  0  16  0
5      15   4  49  1  52  12  56  9 2414 1075
6     366  47 1364 153 712 121 1281 2 1160 256
7     1196 1279 448 1528 319 37 949  0 276  8
8       9   0  28  0  4 1766 34 2928 395 1006
9     201  47 1549  64 1643  8 1113  1 259 138
====Test data====
cloth  0  1  2  3  4  5  6  7  8  9
row_0
0      40   3 360  7 375  0 195  0 58  0
1      11   1  16  1 13 636 39 434 24 14
2     142 719  3 448 32  0 66  0  0  0
3       0   1  1  0  0 48  2 79 181 545
4     500 44 15 245 118  0 144  0  3  0
5       3   1  6  1 14  1 11  1 373 187
6      70 10 270 44 106 18 221  0 174 46
7     191 215 63 242 44  5 138  0 57  1
8       3   0  5  0  2 291  5 486 72 185
9      40  6 261 12 296  1 179  0 58 22
>>> |
```