

**Roll no - 102203686**

### Case1: K=2, and split=60:40

& Confusion Matrix=

```
[[1664      0      1      0      0      1      1      0      5      0]
 [  40 1724     25     33     1     0     8     8     64     0]
 [ 264      0 1294     14     2     6    15     5     29     3]
 [ 267     3    57 1237     1   46     1     6    131     7]
 [ 420     3    15      0 1013     0    14     9    116    80]
 [ 321     5    11     69     3   899    43     5    182     5]
 [ 209     1     7     3     1     6 1419     0      3     0]
 [  70     1    38    21    19     3     0 1438     84    42]
 [ 380    26    16     9     9    39     2     0 1148     0]
 [ 138     0     2     6    14     5     1    79    296 1089]]
```

& Confusion Matrix=

```
[[1219      0      0      0      0      0      1      0      2      0]
 [  38 1265     13     21      0      0      3      4     42      0]
 [ 175      0 1041      9      0      2      4      3     17      2]
 [ 173      2     31  969      0     23      0      5     73      3]
 [ 286      4     17      1   774      0      5      5     80     45]
 [ 209      0      7     49      2   772     19      1    101      3]
 [ 131      3      5      1      0      5 1095      0      6      0]
 [  43      1     19     10     10      1      1 1148     68     30]
 [ 246     15     10     10      2     15      3      1    922      0]
 [ 105      1      1      3      8      5      0     57    244   855]]
```

### Case3: K=2, and split=75:25

Accuracy= 0.9572380952380952

& Confusion Matrix=

```
[[1041 0 1 0 0 0 0 1 0 0]
 [ 0 1169 2 0 1 0 0 1 0 0]
 [ 3 13 990 1 0 0 1 14 1 0]
 [ 2 5 21 1056 1 3 0 2 5 1]
 [ 1 11 0 0 983 0 3 0 0 9]
 [ 1 0 0 44 3 887 11 1 1 1]
 [ 15 3 1 0 3 4 1007 0 0 0]
 [ 0 17 7 1 8 0 0 1108 0 4]
 [ 5 15 5 34 5 32 6 8 853 8]
 [ 6 4 2 12 37 5 1 35 1 957]]
```

### Case4: K=2, and split=80:20

Accuracy= 0.7008333333333333

& Confusion Matrix=

```
[[817 0 0 0 0 0 1 0 3 0]
 [ 28 793 8 13 2 0 4 1 43 0]
 [303 0 525 5 0 0 2 3 14 1]
 [247 3 21 552 0 6 0 5 50 2]
 [337 0 0 0 371 0 6 16 49 33]
 [225 1 0 24 2 421 15 3 64 2]
 [143 0 0 0 1 5 669 0 1 0]
 [ 43 0 14 13 0 0 0 761 31 18]
 [270 14 0 1 2 6 2 2 519 0]
 [113 0 2 2 8 1 0 124 155 459]]
```

### Case5: K=2, and split=90:10

Accuracy= 0.7111904761904762

& Confusion Matrix=

---

```

[[433  0  0  0  0  0  1  0  0  0]
 [ 13 436  6 10  0  0  2  1  7  0]
 [151  0 237  5  0  0  1  0  9  0]
 [119  1  9 259  0 12  0  0 14  2]
 [162  0  3  1 176  0  4  6 17 16]
 [118  0  3 20  0 218  8  1 19  1]
 [ 64  0  0  0  0  1 341  0  1  0]
 [ 28  0  4  4  3  0  0 412 17  6]
 [156  4  4  1  1  3  3  1 219  0]
 [ 48  0  0  0  3  1  0 51 67 256]]

```

### Case6: K=2, and split=95:5

Accuracy= 0.721

& Confusion Matrix=

```

[[2031  0  0  1  0  2  3  0  2  1]
 [ 93 2104 36 46  0  0  9  7 53  1]
 [ 445  2 1612 10  1  8  7  4 27  1]
 [ 434  6  62 1494  0 62  1 17 101  5]
 [ 867  4 18  2 861  4 13 77 127 80]
 [ 487  2 13 90  2 1111 15  3 124  5]
 [ 367  3  6  1  0  4 1659  0 14  0]
 [ 124  2 65 25  8  3  0 1840 45 63]
 [ 643 43 21 15  4 67  3  2 1252  0]
 [ 263  3  4  9 15 14  0 340 303 1177]]

```

### Case7: K=4, and split=60:40

Accuracy= 0.8164285714285714

& Confusion Matrix=

---

```

[[1659  0  0  0  0  0  1  0 12  0]
 [ 11 1731 20  5  1  0 14  4 117  0]
 [ 115  0 1387 11  2  1 24  4  84  4]
 [ 112  2  26 1341  0 30  1  4 232  8]
 [ 228  0  3  1 1028  0 44  7 211 148]
 [ 229  1  6 49  0 878 35  4 336  5]
 [ 102  0  0  0  1  4 1524  0 18  0]
 [ 49  1 27  7 12  1  0 1443 111 65]
 [ 71  3  3  4  6 13  4  0 1525  0]
 [ 87  0  0  8  4  6  1 37 287 1200]]

```

**Case8: K=4, and split=70:30**

Accuracy= 0.8211111111111111

& Confusion Matrix=

[	[	12	12	0	0	0	0	0	0	1	0	8	1]			
[	9	12	9	0	19	10	0	0	8	2	4	5	3]			
[	11	4	0	10	6	4	9	0	0	6	2	5	3]			
[	6	8	2	2	0	10	14	0	24	3	4	13	9	5]		
[	2	13	2	4	0	6	7	3	0	23	7	18	7	10	8]	
[	15	5	0	6	5	1	7	10	2	0	2	2	12	6]		
[	8	1	0	1	0	0	2	11	3	9	0	2	3	0]		
[	3	8	1	2	5	6	2	1	1	1	2	4	6	9	6	4]
[	3	5	2	2	1	3	1	9	2	1	1	5	9	0]		
[	6	3	0	0	5	4	4	0	3	6	2	0	6	9	6	1]]]

**Case9: K=4, and split=75:25**

Accuracy= 0.7452380952380953

& Confusion Matrix=

[	[	1039	0	0	0	0	0	1	0	2	1]
[	25	1013	12	0	0	0	10	2	110	1]	
[	173	0	785	8	0	0	12	6	38	1]	
[	158	2	14	758	0	13	0	2	148	1]	
[	330	0	0	0	481	0	5	6	104	81]	
[	253	0	2	19	2	464	11	0	192	6]	
[	165	0	0	0	0	1	859	0	8	0]	
[	52	0	13	4	3	0	0	959	69	45]	
[	206	0	2	1	1	3	4	1	753	0]	
[	109	0	0	2	4	1	0	38	192	714]]]	

**Case10: K=4, and split=80:20**

Accuracy= 0.7585714285714286

& Confusion Matrix=

```

[[816  0  0  0  0  0  1  0  4  0]
 [ 22 777  8  1  0  0  4  1 79  0]
 [163  0 645  9  0  0  4  5 27  0]
 [111  1 12 669  0  4  0  0 85  4]
 [265  0  1  0 386  0 11  9 85 55]
 [156  0  0 11  2 433 13  1 138  3]
 [114  0  0  0  1  3 695  0  6  0]
 [ 37  0  9  5  0  0  0 764 38 27]
 [180  0  0  3  0  1  3  1 627  1]
 [ 94  0  1  1  5  0  0 41 162 560]]

```

**Case11: K=4, and split=90:10**

Accuracy= 0.784047619047619

& Confusion Matrix=

```

[[432  0  0  0  0  0  1  0  1  0]
 [  8 438  6  0  0  0  4  2 17  0]
 [ 71  0 305  8  0  0  3  0 16  0]
 [ 54  0  2 315  0  6  2  0 35  2]
 [119  1  0  0 205  0  5  0 21 34]
 [ 94  0  0 10  1 229  7  0 45  2]
 [ 49  0  0  0  0  0 353  0  5  0]
 [ 25  0  6  1  1  0  0 410 19 12]
 [ 86  0  0  1  0  1  1  1 302  0]
 [ 46  0  0  0  0  1  0 13  62 304]]

```

---

**Case12: K=4, and split=95:5**

Accuracy= 0.7965238095238095

& Confusion Matrix=

```

[[2022  0  0  1  0  0  4  0 12  1]
 [  38 2129 26  7  0  0 10  3 133  3]
 [ 245  1 1772 18  1  4  8  3  63  2]
 [ 199  3  44 1701  1 32  1  6 185 10]
 [ 638  2  3  2 923  0 15 13 230 227]
 [ 287  0  3 66  1 1186 23  3 270 13]
 [ 205  1  0  1  1  3 1805  0  38  0]
 [ 104  2 44  7  3  3  0 1832  80 100]
 [ 168  6  6 13  1 30  1  2 1822  1]
 [ 195  0  1  3  3  6  1  91 293 1535]]

```



**Case13: K=5, and split=60:40**

Accuracy= 0.8211309523809524

& Confusion Matrix=

```
[[1660    0    0    0    0    0    1    0    11    0]
 [   5 1738    22    3    1    0   14    3   117    0]
 [ 113    1 1398   10    1    0   23    5    78    3]
 [ 103    3    28 1351    0   31    2    3   228    7]
 [ 183    1    3    0 1023    0   48    8   246   158]
 [ 206    0    2   58    0  866   43    3   360    5]
 [   86    0    0    0    1    5 1546    0    11    0]
 [   49    1   30    9   11    3    0 1414   117    82]
 [   56    4    5    6    6    9    3    0 1539    1]
 [   63    0    0    8    3    5    2   36   253 1260]]
```

**Case14: K=5, and split=70:30**

Accuracy= 0.8256349206349206

& Confusion Matrix=

```
[[1204    0    0    0    0    0    1    0   16    1]
 [   7 1288   20    6    0    0    8    3   53    1]
 [  97    0 1071    9    0    0   10    4   59    3]
 [  57    2   17 1015    0   26    3    4  150    5]
 [ 190    1    3    0  686    1   18    6  189   123]
 [ 152    0    3   58    1  686   21    2  236    4]
 [  58    0    1    0    0    2 1160    0   25    0]
 [  33    1   24    9    2    0    1 1109    80   72]
 [  31    1    2    9    0    5    0    0 1175    1]
 [  55    0    0    5    2    4    0   29  175 1009]]
```

**Case15: K=5, and split=75:25**

Accuracy= 0.7743809523809524

& Confusion Matrix=

```

[[1035 0 0 0 0 0 1 0 6 1]
 [ 30 1000 14 0 0 0 9 3 117 0]
 [ 145 1 814 11 0 0 12 6 33 1]
 [ 123 1 15 790 0 17 1 2 145 2]
 [ 280 0 2 0 517 0 9 4 112 83]
 [ 247 0 1 25 1 450 14 0 206 5]
 [ 115 0 0 0 0 1 908 0 9 0]
 [ 42 0 20 5 3 0 0 959 62 54]
 [ 56 0 2 2 1 1 4 1 904 0]
 [ 94 0 0 2 3 1 0 31 175 754]]

```

**Case16: K=5, and split=80:20**

Accuracy= 0.7867857142857143

& Confusion Matrix=

```

[[817 0 0 0 0 0 0 0 4 0]
 [ 22 777 11 0 0 0 3 0 78 1]
 [131 0 675 10 0 0 4 4 29 0]
 [ 90 1 11 687 0 6 0 0 87 4]
 [245 0 0 0 398 1 13 9 91 55]
 [150 0 0 18 2 430 12 2 140 3]
 [ 75 0 0 0 0 2 733 0 9 0]
 [ 30 0 9 8 0 0 0 750 46 37]
 [ 59 0 0 4 0 1 2 0 749 1]
 [ 85 0 1 2 3 0 0 37 143 593]]

```

**Case17: K=5, and split=90:10**

Accuracy= 0.8095238095238095

& Confusion Matrix=

```

[[432 0 0 0 0 0 1 0 1 0]
 [ 10 434 4 0 0 0 5 2 20 0]
 [ 62 0 314 5 0 0 5 0 17 0]
 [ 47 1 2 323 0 7 2 0 33 1]
 [106 1 1 0 214 0 6 0 23 34]
 [ 82 0 0 13 1 229 9 0 52 2]
 [ 34 0 0 0 0 0 368 0 5 0]
 [ 23 0 6 1 0 0 0 408 21 15]
 [ 34 0 0 2 0 2 2 0 352 0]
 [ 28 0 0 0 0 0 0 13 59 326]]

```

**Case18: K=5, and split=95:5**

Accuracy= 0.815047619047619

& Confusion Matrix=

```
[[2021    1    0    1    0    0    4    0    13    0]
 [ 27 2135    24    3    0    0    12    7    139    2]
 [ 201    0 1818    14    1    0    10    3    67    3]
 [ 162    3    43 1746    0    31    2    11    173    11]
 [ 536    2    5    0 1003    1    20    13    259    214]
 [ 257    0    2    90    1 1174    24    3    293    8]
 [ 128    1    0    2    0    2 1890    0    31    0]
 [ 88    2    47    12    2    2    0 1836    80    106]
 [ 101    7    12    18    1    14    4    4 1886    3]
 [ 141    0    0    7    3    7    1    87    275 1607]]
```

**Case19: K=6, and split=60:40**

Accuracy= 0.8235119047619047

& Confusion Matrix=

```
[[1662    0    0    0    0    0    1    0    9    0]
 [ 5 1748    19    0    1    0    14    4    112    0]
 [ 113    1 1401    8    0    0    30    2    73    4]
 [ 107    3    30 1362    0    23    2    3    220    6]
 [ 169    0    3    1 1041    0    60    3    245    148]
 [ 199    0    2    70    0 876    38    2    350    6]
 [ 90    0    0    0    1    4 1536    0    18    0]
 [ 52    1    29    11    12    1    0 1416    121    73]
 [ 45    4    6    4    5    12    3    0 1550    0]
 [ 62    0    0    8    3    4    2    44    264 1243]]
```

**Case20: K=6, and split=70:30**

Accuracy= 0.8280952380952381

& Confusion Matrix=

```
[[1213    0    0    0    0    0    1    0    7    1]
 [ 9 1293    16    3    1    0    7    3    53    1]
 [ 94    0 1078    11    0    0    9    4    54    3]
 [ 60    2    16 1026    0    20    3    3    145    4]
 [ 184    1    6    0 691    1    18    8    189    119]
 [ 158    0    3    62    0 690    21    1    223    5]
 [ 71    0    1    0    0    2 1152    0    20    0]
 [ 31    1    26    7    2    0    1 1121    75    67]
 [ 32    2    2    8    0    4    0    1 1174    1]
 [ 53    0    0    4    2    3    0    36    185    996]]
```



**Case21: K=6, and split=75:25**

Accuracy= 0.7916666666666666

& Confusion Matrix=

```
[[818  0  0  0  0  0  0  0  3  0]
 [ 13 796  9  0  0  0  5  0 69  0]
 [125  0 679 11  0  0  3  6 29  0]
 [ 71  1  14 705  0  2  0  0 90  3]
 [234  0  1  0 398  0  9  7 102 61]
 [152  0  0 20  1 426  8  2 145  3]
 [ 79  0  0  0  0  2 729  0  9  0]
 [ 31  0 12  4  0  1  0 764 40 28]
 [ 55  0  0  5  0  1  2  0 752  1]
 [ 88  0  1  1  3  0  0 42 146 583]]
```

**Case22: K=6, and split=90:10**

Accuracy= 0.8192857142857143

& Confusion Matrix=

```
[[432  0  0  0  0  0  1  0  1  0]
 [  6 441  5  1  0  0  5  1 16  0]
 [ 57  0 319  6  0  0  5  0 16  0]
 [ 33  1  4 337  0  6  1  1 31  2]
 [ 95  1  1  0 220  0  5  0 28 35]
 [ 76  0  0 16  2 233  9  1 49  2]
 [ 38  0  0  0  0  0 363  0  6  0]
 [ 25  0  6  1  1  0  0 412 18 11]
 [ 30  0  0  1  0  1  1  0 359  0]
 [ 30  0  0  0  0  1  0 15  55 325]]
```

**Case23: K=6, and split=80:20**

Accuracy= 0.7916666666666666

& Confusion Matrix=

```

[[818 0 0 0 0 0 0 0 3 0]
 [ 13 796 9 0 0 0 5 0 69 0]
 [125 0 679 11 0 0 3 6 29 0]
 [ 71 1 14 705 0 2 0 0 90 3]
 [234 0 1 0 398 0 9 7 102 61]
 [152 0 0 20 1 426 8 2 145 3]
 [ 79 0 0 0 0 2 729 0 9 0]
 [ 31 0 12 4 0 1 0 764 40 28]
 [ 55 0 0 5 0 1 2 0 752 1]
 [ 88 0 1 1 3 0 0 42 146 583]]

```

---

**Case24: K=6, and split=95:5**

Accuracy= 0.8225238095238095

& Confusion Matrix=

```

[[2021 1 0 1 0 0 3 0 14 0]
 [ 21 2147 22 3 0 0 13 9 133 1]
 [ 173 0 1843 16 0 0 10 3 70 2]
 [ 146 3 45 1748 0 27 2 9 195 7]
 [ 471 2 4 0 1052 1 28 17 245 233]
 [ 257 0 3 77 0 1175 24 3 299 14]
 [ 114 1 0 1 0 3 1903 0 32 0]
 [ 86 3 51 11 5 2 0 1848 76 93]
 [ 79 5 9 19 0 15 3 4 1914 2]
 [ 134 0 0 9 1 4 1 94 263 1622]]

```

**Case25: K=7, and split=60:40**

Accuracy= 0.8245238095238095

& Confusion Matrix=

```

[[1659 0 0 0 0 0 1 0 12 0]
 [ 5 1753 21 0 1 0 13 5 105 0]
 [ 99 0 1408 11 1 0 26 2 82 3]
 [ 93 3 25 1381 0 17 5 3 222 7]
 [ 153 0 3 1 1029 0 55 5 267 157]
 [ 197 0 1 56 0 846 41 3 392 7]
 [ 74 0 0 1 1 5 1548 0 20 0]
 [ 52 1 28 10 9 1 1 1403 114 97]
 [ 47 3 3 3 5 10 3 0 1555 0]
 [ 59 0 0 8 4 5 2 41 241 1270]]

```

**Case26: K=7, and split=70:30**

Accuracy= 0.8288888888888889

&amp; Confusion Matrix=

```

[[1210  0  0  0  0  0  1  0 10  1]
 [  5 1290 15  4  1  0  9  2 59  1]
 [ 84  0 1081 11  1  0 10  5 58  3]
 [ 58  2 171020  0 18  3  2 153  6]
 [151  1  4  1 708  1 21  5 191 134]
 [151  0  3 61  0 664 21  1 255  7]
 [ 65  0  1  0  0  1 1156  0 23  0]
 [ 29  1 25  9  2  0  2 1115 78 70]
 [ 31  2  2  7  0  3  0  1 1177  1]
 [ 50  0  0  5  2  3  0 33 163 1023]]

```

**Case27: K=7, and split=75:25**

Accuracy= 0.7856190476190477

&amp; Confusion Matrix=

```

[[1035  0  0  0  0  0  1  0  6  1]
 [  7 1018 13  1  0  0  8  2 124  0]
 [ 97  1 845 11  0  0  9  6  53  1]
 [ 89  0 20797  0 15  0  2 172  1]
 [230  0  3  0 539  0  9  7 126 93]
 [195  0  1 26  0 453 16  1 253  4]
 [ 91  0  0  0  0  1 925  0 16  0]
 [ 38  0 19  7  1  0  0 960 73 47]
 [ 37  0  4  3  1  3  3  1 918  1]
 [ 89  0  0  1  2  0  0 31 178 759]]

```

**Case28: K=7, and split=80:20**

Accuracy= 0.799404761904762

&amp; Confusion Matrix=

```

[[818 0 0 0 0 0 0 0 3 0]
 [ 7 796 9 0 0 0 5 0 75 0]
 [108 0 689 11 0 0 3 4 38 0]
 [ 61 1 13 716 0 3 0 0 88 4]
 [213 0 1 0 409 0 10 7 111 61]
 [137 0 0 17 0 425 9 2 164 3]
 [ 70 0 0 0 0 1 737 0 11 0]
 [ 29 0 14 7 0 0 0 751 45 34]
 [ 32 1 0 7 0 0 2 0 773 1]
 [ 79 0 0 1 2 0 0 34 147 601]]

```

**Case29: K=7, and split=90:10**

Accuracy= 0.8330952380952381

& Confusion Matrix=

```

[[432 0 0 0 0 0 1 0 1 0]
 [ 3 442 4 1 0 0 5 1 19 0]
 [ 48 0 330 4 0 0 5 0 16 0]
 [ 25 1 5 339 0 5 0 1 38 2]
 [ 85 1 0 0 226 0 7 0 30 36]
 [ 61 0 0 19 2 233 9 1 61 2]
 [ 29 0 0 0 0 0 374 0 4 0]
 [ 19 0 6 0 0 0 0 410 25 14]
 [ 18 1 0 2 0 2 0 0 369 0]
 [ 22 0 0 0 0 1 0 12 47 344]]

```

**Case30: K=7, and split=95:5**

Accuracy= 0.8266666666666667

& Confusion Matrix=

```

[[2022 0 0 0 0 0 3 0 15 0]
 [ 18 2155 21 5 0 0 14 3 132 1]
 [ 165 0 1848 15 0 0 13 5 67 4]
 [ 131 2 44 1764 0 21 2 7 203 8]
 [ 389 2 7 0 1067 0 41 12 270 265]
 [ 228 0 3 79 0 1157 29 3 338 15]
 [ 116 0 0 1 0 6 1914 0 17 0]
 [ 77 1 51 15 4 2 1 1844 74 106]
 [ 71 2 7 17 1 11 3 4 1931 3]
 [ 112 0 0 9 2 3 1 78 265 1658]]

```

**Case31: K=10, and split=60:40**

Accuracy= 0.8299404761904762

& Confusion Matrix=

```
[[1664    0    0    0    0    0    1    0    7    0]
 [   1 1754   18    1    1    0   12    2  114    0]
 [   98    1 1422   10    0    0   29    4   65    3]
 [  101    2   25 1372    0   17    4    3  224    8]
 [  114    0    2    0 1045    0   65    3  275  166]
 [  205    0    1   53    0  880   37    2  357    8]
 [   77    0    0    1    2    6 1545    0   18    0]
 [   53    0   25   11    5    1    1 1415  119   86]
 [   49    1    4    2    4   11    2    0 1556    0]
 [   57    0    0    5    1    3    4   33  237 1290]]
```

**Case32: K=10, and split=70:30**

Accuracy= 0.832936507936508

& Confusion Matrix=

```
[[1210    0    0    0    0    0    1    0   11    0]
 [   1 1302   13    3    0    0    8    2   56    1]
 [   86    0 1083   10    1    0   10    3   58    2]
 [   52    1   19 1036    0   12    2    3  149    5]
 [  131    1    6    0  719    0   17    4  208  131]
 [  155    0    4   60    0  666   22    2  250    4]
 [   76    0    1    0    0    3 1145    0   21    0]
 [   31    1   26    6    1    0    2 1117    73   74]
 [   25    1    2    9    0    1    0    1 1184    1]
 [   43    0    1    4    1    2    0   31  164 1033]]
```

**Case33: K=10, and split=75:25**

Accuracy= 0.7973333333333333

& Confusion Matrix=



---

```

[[1038    0    0    0    0    0    0    0    5    0]
 [   3 1042   14    1    0    0    7    1 105    0]
 [   94    0 862    8    0    0    9    6   43    1]
 [   68    1   17 820    0    8    2    2 177    1]
 [  192    0    3    0 555    0   11    7 149   90]
 [  171    0    2   27    0 473   17    1 253    5]
 [   82    0    0    0    0    0 936    0   15    0]
 [   31    0   21    6    1    0    0 960   78   48]
 [   33    0    4    4    1    0    4    1 924    0]
 [   75    0    0    2    1    1    0   33 186  762]]

```

---

**Case34: K=10, and split=80:20**

Accuracy= 0.8082142857142857

& Confusion Matrix=

```

[[817    0    0    0    0    0    0    0    4    0]
 [   4 811   10    1    0    0    4    0 62    0]
 [   79    0 721    9    0    0    5    2 36    1]
 [   48    1   16 725    0    3    1    0 88    4]
 [  177    0    0    0 416    0   15    4 129   71]
 [  124    0    0   27    0 423   12    2 166    3]
 [   61    0    0    0    0    1 744    0   13    0]
 [   28    0   16    5    0    0    0 757   43   31]
 [   29    1    0    5    0    0    2    1 777    1]
 [   66    0    0    2    2    1    0   33 162  598]]

```

**Case35: K=10, and split=90:10**

Accuracy= 0.8452380952380952

& Confusion Matrix=

---

```

[[431    0    0    0    0    0    1    0    2    0]
 [   2 443    5    1    0    0    5    1 18    0]
 [   32    0 345    4    0    0    3    0 19    0]
 [   18    1    5 352    0    5    0    0 33    2]
 [   58    1    2    0 240    0    6    0 42   36]
 [   56    0    0   18    1 234   12    1 63    3]
 [   24    0    0    1    0    0 378    0    4    0]
 [   15    0    5    2    0    0    0 408   30   14]
 [   14    0    1    3    0    1    0    0 373    0]
 [   18    0    0    0    1    1    0   10   50  346]]

```

---

Case36: K=10, and split=95:5

Accuracy= 0.8346190476190476

& Confusion Matrix=

[	2023	0	0	0	0	0	3	0	14	0]
[	3	2156	24	3	0	1	16	3	143	0]
[	152	0	1865	12	1	0	13	5	65	4]
[	114	1	49	1775	0	18	3	7	205	10]
[	259	0	7	0	1152	0	52	11	289	283]
[	242	0	2	71	0	1136	28	2	358	13]
[	102	1	0	0	0	3	1925	0	23	0]
[	72	0	48	12	2	0	1	1847	92	101]
[	52	1	6	14	2	10	3	5	1956	1]
[	85	0	1	7	2	3	1	76	261	1692]]

---



