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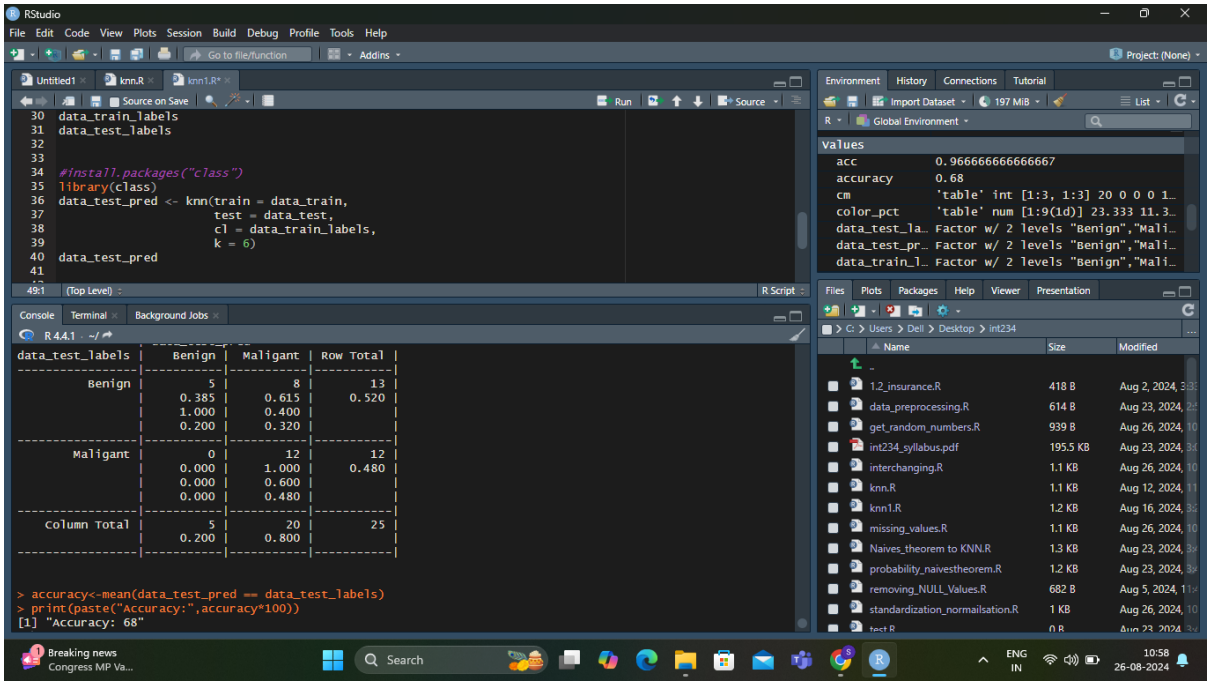
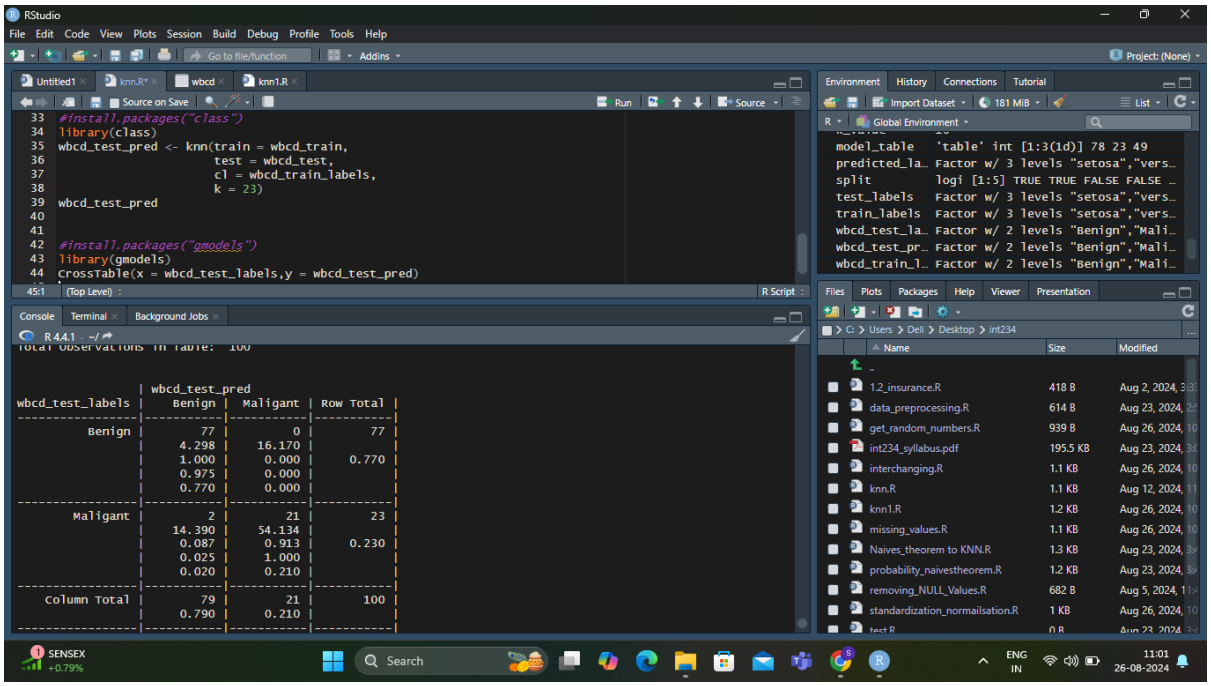


```
  30 data_train_labels
  31 data_test_labels
  32
  33
  34 #install.packages("class")
  35 library(class)
  36 data_test_pred <- knn(train = data_train,
  37                       test = data_test,
  38                       cl = data_train_labels,
  39                       k = 6)
  40 data_test_pred
```

```
data_test_labels |    Benign | Maligant | Row Total |
-----------------|-----------|----------|-----------|
          Benign |         5 |        8 |        13 |
                 |     0.385 |    0.615 |     0.520 |
                 |     1.000 |    0.400 |           |
                 |     0.200 |    0.320 |           |
-----------------|-----------|----------|-----------|
        Maligant |         0 |       12 |        12 |
                 |     0.000 |    1.000 |     0.480 |
                 |     0.000 |    0.600 |           |
                 |     0.000 |    0.480 |           |
-----------------|-----------|----------|-----------|
    Column Total |         5 |       20 |        25 |
                 |     0.200 |    0.800 |           |
-----------------|-----------|----------|-----------|
```

```
> accuracy<-mean(data_test_pred == data_test_labels)
> print(paste("Accuracy:",accuracy*100))
[1] "Accuracy: 68"
```



```
  33 #install.packages("class")
  34 library(class)
  35 wbcd_test_pred <- knn(train = wbcd_train,
  36                       test = wbcd_test,
  37                       cl = wbcd_train_labels,
  38                       k = 23)
  39 wbcd_test_pred
  40
  41
  42 #install.packages("gmodels")
  43 library(gmodels)
  44 CrossTable(x = wbcd_test_labels,y = wbcd_test_pred)
```

```
Total Observations in Table:  100


                 | wbcd_test_pred
wbcd_test_labels |    Benign | Maligant | Row Total |
-----------------|-----------|----------|-----------|
          Benign |        77 |        0 |        77 |
                 |     4.298 |   16.170 |           |
                 |     1.000 |    0.000 |     0.770 |
                 |     0.975 |    0.000 |           |
                 |     0.770 |    0.000 |           |
-----------------|-----------|----------|-----------|
        Maligant |         2 |       21 |        23 |
                 |    14.390 |   54.134 |           |
                 |     0.087 |    0.913 |     0.230 |
                 |     0.025 |    1.000 |           |
                 |     0.020 |    0.210 |           |
-----------------|-----------|----------|-----------|
    Column Total |        79 |       21 |       100 |
                 |     0.790 |    0.210 |           |
-----------------|-----------|----------|-----------|
```