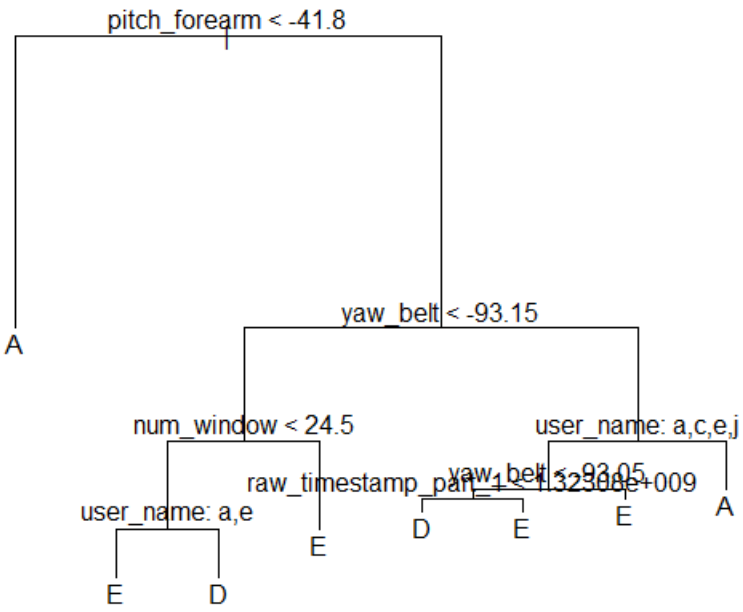
18

1. Use the below given data set

2. Perform the below given activities:

a. Create classification model using different decision trees.

Classification based on Decision Tree method



,,,,,

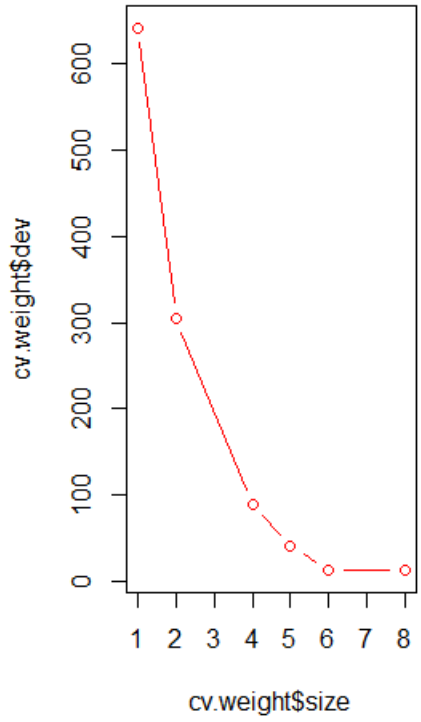
```
> summary(tree)

Classification tree:
tree(formula = classe ~ ., data = weightTrain)
Variables actually used in tree construction:
[1] "pitch_forearm"        "yaw_belt"             "num_window"
"user_name"            "raw_timestamp_part_1"
Number of terminal nodes:  8
Residual mean deviance:  0.003518 = 7.051 / 2004
Misclassification error rate: 0.000497 = 1 / 2012

> table(weightTest$classe,pred)
   pred
      A   B   C   D   E
  A 337   0   0 248 414
  B   0   0   0  17 884
  C  29   0   0   0  83
  D   0   0   0   0   0
  E   0   0   0   0   0
```

Classification based on Decision Tree method

b. Verify model goodness of fit.

```
> table(weightTest$classe,pred)
   pred
      A   B   C   D   E
  A 337   0   0 248 414
  B   0   0   0  17 884
  C  29   0   0   0  83
  D   0   0   0   0   0
  E   0   0   0   0   0
```

c. Apply all the model validation techniques.



d. Make conclusions.

Model having best classification accuracy is selected