Machine Learning Assignment 1

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Friday, January 23, 2015

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When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
    options(warn=-1)
    library(ggplot2)
    library(plyr)
    library(rattle)
```

```
## Rattle: A free graphical interface for data mining with R.
## Version 3.4.1 Copyright (c) 2006-2014 Togaware Pty Ltd.
## Type 'rattle()' to shake, rattle, and roll your data.
```

```
    library(caret)
```

```
## Loading required package: lattice
```

```
##    library(mboost)
    options(warn=0)

    setwd("C:/Users/elarsen/Coursera work")
    train_data<-read.csv("machine learning/MachLearnAssignment/pml-training.csv")
##    test_data<-read.csv("machine learning/MachLearnAssignment/pml-testing.csv")
```

```
## Create training set split
    inTrain<-createDataPartition(y=train_data$classe, p=.75, list=FALSE)
    training<-train_data[inTrain,]
    testing<-train_data[inTrain,]
```

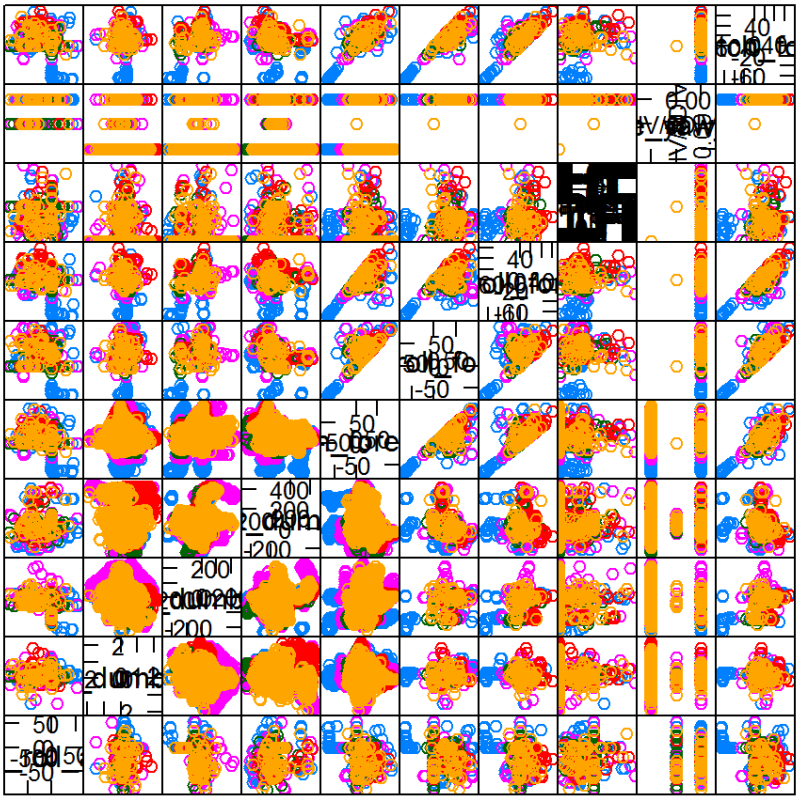
```
##Generate series of pairs plots for readabilty.
i<-1
    for(i in seq(from=1, to=(dim(training)[2]-3), by=10)){

        ##

    print(c("Start", i, "end",i+9))
##    x<-featurePlot(x=training[,i:(i+9)], y=factor(training$classe), plot="pairs")
 ##   print(x)
    }
```

```
## [1] "Start" "1"     "end"   "10"
## [1] "Start" "11"    "end"   "20"
## [1] "Start" "21"    "end"   "30"
## [1] "Start" "31"    "end"   "40"
## [1] "Start" "41"    "end"   "50"
## [1] "Start" "51"    "end"   "60"
## [1] "Start" "61"    "end"   "70"
## [1] "Start" "71"    "end"   "80"
## [1] "Start" "81"    "end"   "90"
## [1] "Start" "91"    "end"   "100"
## [1] "Start" "101"   "end"   "110"
## [1] "Start" "111"   "end"   "120"
## [1] "Start" "121"   "end"   "130"
## [1] "Start" "131"   "end"   "140"
## [1] "Start" "141"   "end"   "150"
## [1] "Start" "151"   "end"   "160"
```

```
    set.seed(4150)
    factorSet<-c(78,113,116,121,123,131,134,136,139,145,160)
    x<-featurePlot(x=training[,factorSet[1:10]], y=factor(training$classe), plot="pa
irs")
    print(x)
```



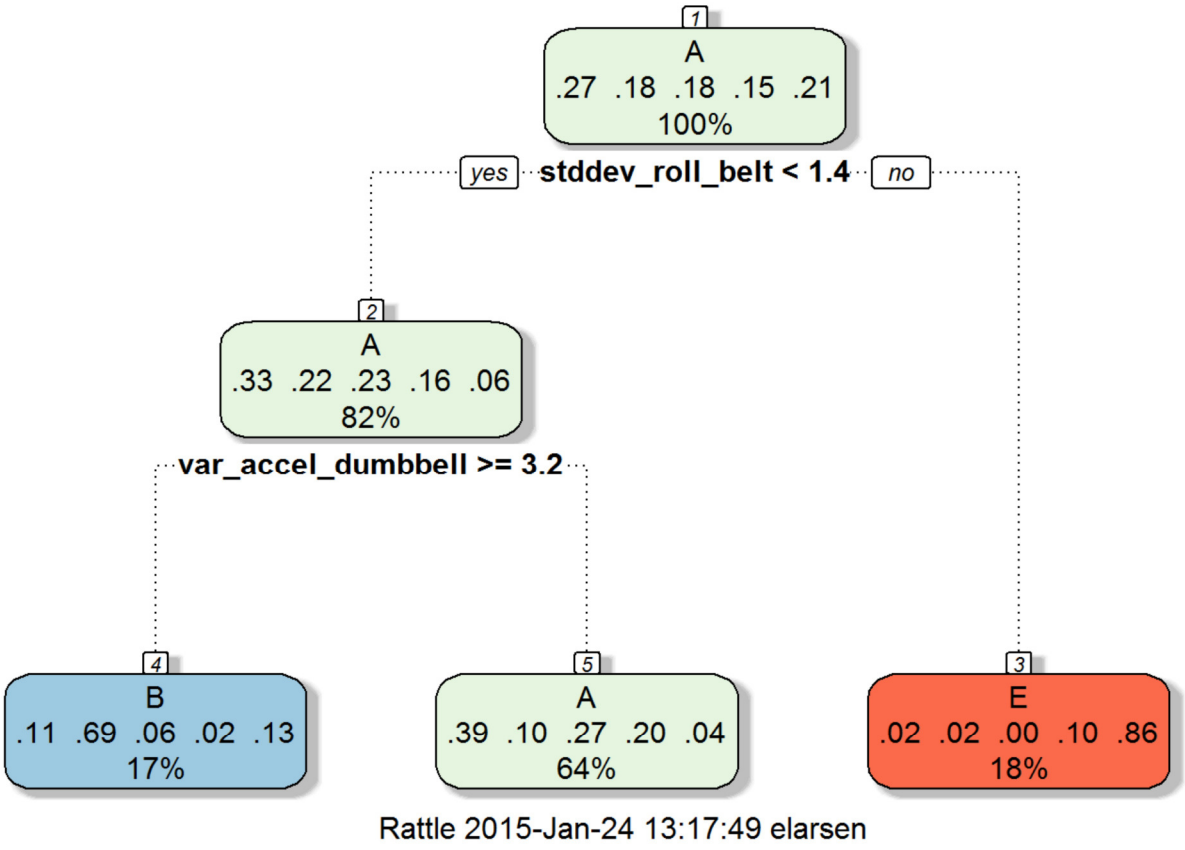
Scatter Plot Matrix

```
##     modelFit<-train(classe ~., data=training[,factorSet], method="rpart")
    modelFit<-train(classe ~., data=training[,8:160], method="rpart")
```

```
## Loading required package: rpart
```

```
## Warning: package 'rpart' was built under R version 3.1.2
```

```
    fancyRpartPlot(modelFit$finalModel)
```




```
##    modelFit<-train(classe ~., data=training, method="rpart")
    ##modelFit
```

Expected Error rate