

Classification Algorithm in R programming (rainfall):

Get the data points in form of a R vector.

```
rainfall <-
```

```
c(799,1174.8,865.1,1334.6,635.4,918.5,685.5,998.6,784.2,985,882.8,1071)
```

Convert it to a time series object.

```
rainfall.timeseries <- ts(rainfall,start = c(2012,1),frequency = 12)
```

Print the timeseries data.

```
print(rainfall.timeseries)
```

Give the chart file a name.

```
png(file = "rainfall.png")
```

Plot a graph of the time series.

```
plot(rainfall.timeseries)
```

Save the file.

```
dev.off()
```

```
plot(rainfall.timeseries)
```

k-means clustering using R:

```
newiris<-iris
```

```
newiris$Species<-NULL
```

```
(kc<-kmeans(newiris,3))
```

```
table(iris$Species,kc$cluster)
```

```
plot(newiris[c("Sepal.Length","Sepal.Width")],col=kc$cluster)
```

Prediction using Linear Regression:

```
x <- c(151, 174, 138, 186, 128, 136, 179, 163, 152, 131)
```

```
y <- c(63, 81, 56, 91, 47, 57, 76, 72, 62, 48)
```

Apply the lm() function.

```
relation <- lm(y~x)
```

```
print(relation)
```

```
print(summary(relation))
```

Find weight of a person with height 170.

```
a <- data.frame(x = 170)
result <- predict(relation,a)
print(result)
# Plot the chart.
plot(y,x,col = "blue",main = "Height & Weight Regression",
abline(lm(x~y)),cex = 1.3,pch = 16,xlab = "Weight in Kg",ylab = "Height in
cm")
```

Decision tree:

install.packages("party")

```
# Load the party package. It will automatically load other
# dependent packages.
```

```
library(party)
```

```
# Print some records from data set readingSkills.
```

```
print(head(readingSkills))
```

```
# Create the input data frame.
```

```
input.dat <- readingSkills[c(1:105),]
```

```
# Give the chart file a name.
```

```
png(file = "decision_tree.png")
```

```
# Create the tree.
```

```
output.tree <- ctree(
```

```
nativeSpeaker ~ age + shoeSize + score,data = input.dat)
```

```
# Plot the tree.
```

```
plot(output.tree)
```

```
# Save the file.
```

```
dev.off()
```

```
plot(output.tree)
```