Practical 7

AIM: Practical Implementation of Decision Tree using R Tool

```
install.packages("party")
```

The package "party" has the function ctree() which is used to create and analyze decison tree.

Syntax

The basic syntax for creating a decision tree in R is –

```
ctree(formula,data)
```

Input Data

We will use the R in-built data set named readingSkills to create a decision tree. It describes the score of someone's readingSkills if we know the variables "age","shoesize","score" and whether the person is a native speaker or not.

Here is the sample data.

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

 library(party)

# Print some records from data set readingSkills.

print(head(readingSkills))
```

When we execute the above code, it produces the following result and chart –

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

library(party)

# 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()
```

Output:-

```
null device
          1
Loading required package: grid
Loading required package: mvtnorm
Loading required package: modeltools
Loading required package: stats4
Loading required package: strucchange
Loading required package: zoo

Attaching package: ‘zoo’

The following objects are masked from ‘package:base’:

    as.Date, as.Date.numeric

Loading required package: sandwich
```