practical 6:

a. Simple Linear regression

Aim: Create your own data for years of experience and salary in lakhs and apply linear regression model to predict the salary

Requirement:

R tool

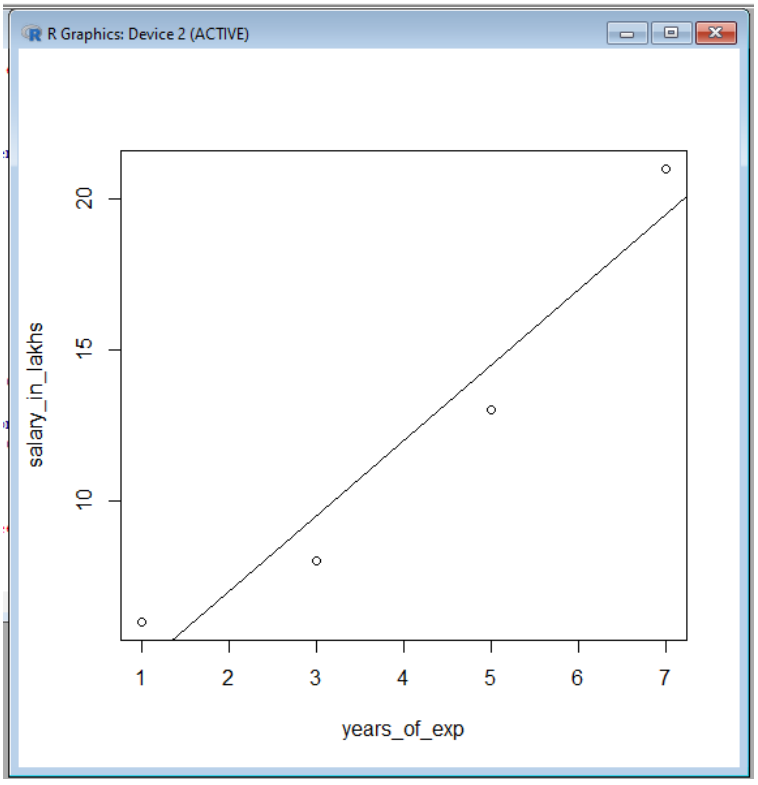
Code:

```
years_of_exp = c(7,5,1,3)
salary_in_lakhs = c(21,13,6,8)
employee.data = data.frame(years_of_exp, salary_in_lakhs)
employee.data

model <- lm(salary_in_lakhs ~ years_of_exp, data = employee.data)
summary(model)

plot(salary_in_lakhs ~ years_of_exp, data = employee.data)
abline(model)
```

Output:



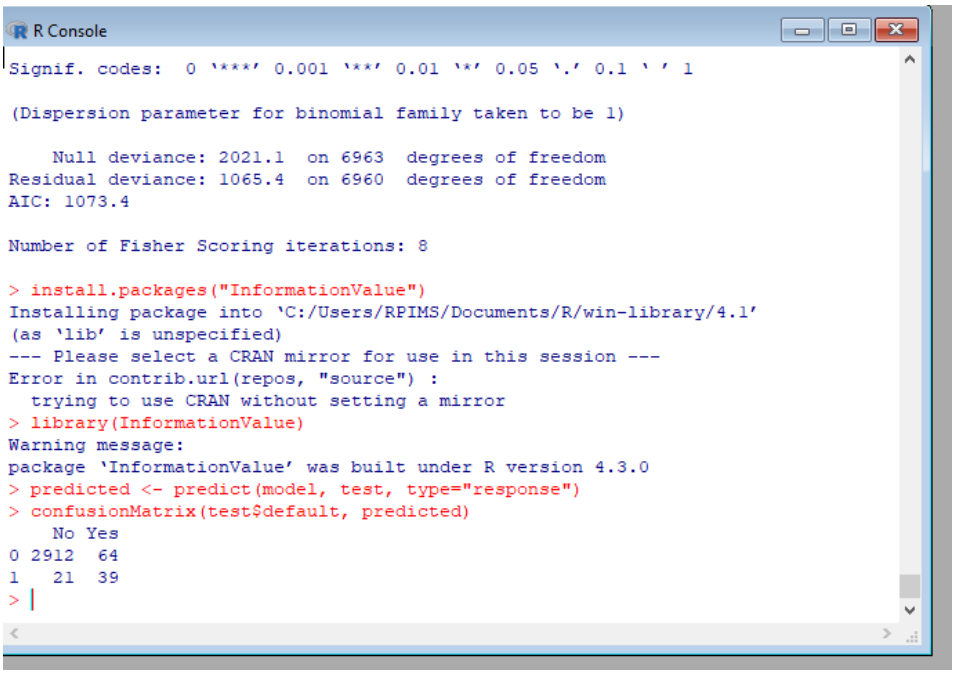
b.: Logistic regression:

Aim: Take the in-built data from ISLR package and apply generalized logistic regression to find whether a person would be defaulter or not; considering input as student, income and balance.

Code:

```
install.packages("ISLR")
library(ISLR)
data <- ISLR::Default
print (head(ISLR::Default))
summary(data)
nrow(data)
set.seed(1)
sample <- sample(c(TRUE, FALSE), nrow(data), replace=TRUE, prob=c(0.7,0.3))
print (sample)
train <- data[sample, ]
test <- data[!sample, ]
nrow(train)
nrow(test)
model <- glm(default~student+balance+income, family="binomial", data=train)
summary(model)
install.packages("InformationValue")
library(InformationValue)
predicted <- predict(model, test, type="response")
confusionMatrix(test$default, predicted)
```

Output:

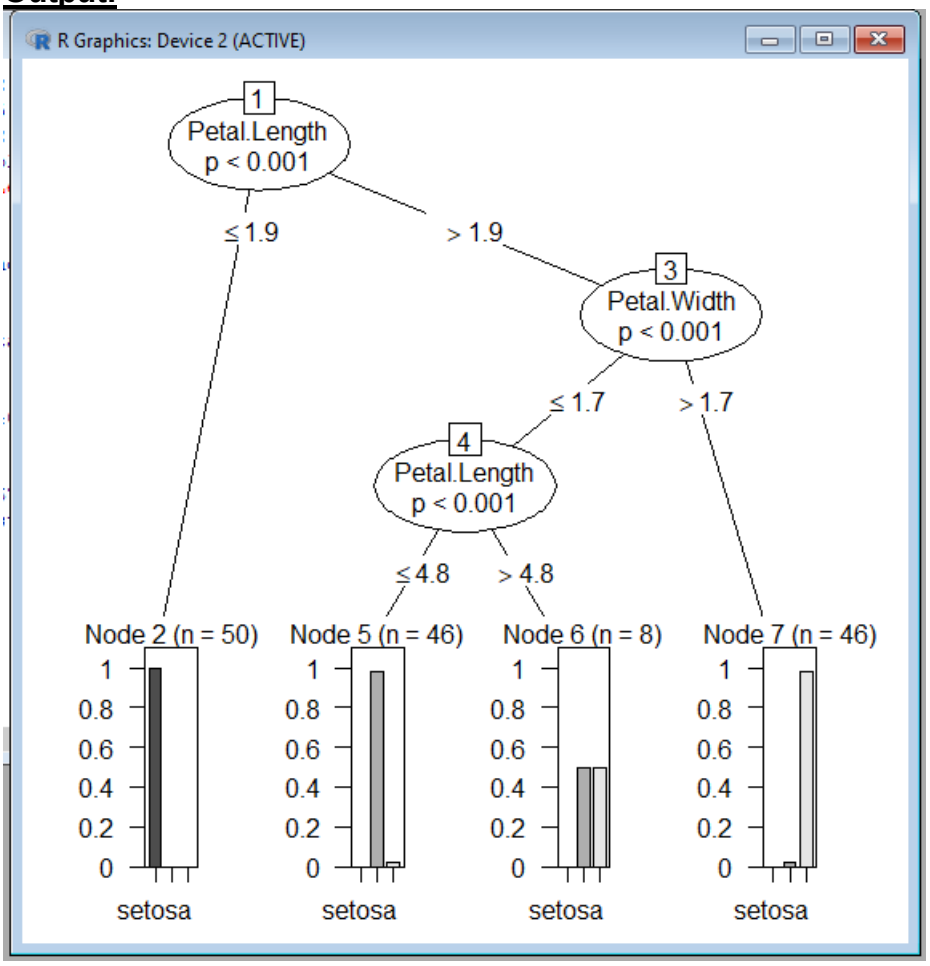


Requirement:
R tool

Code:

```
library("party")
print(head(readingSkills))

str(iris)
iris_ctree <- ctree(Species ~ Sepal.Width + Sepal.Length + Petal.Length +
Petal.Width, data=iris

print (iris_ctree)
plot(iris_ctree)
```

Output: