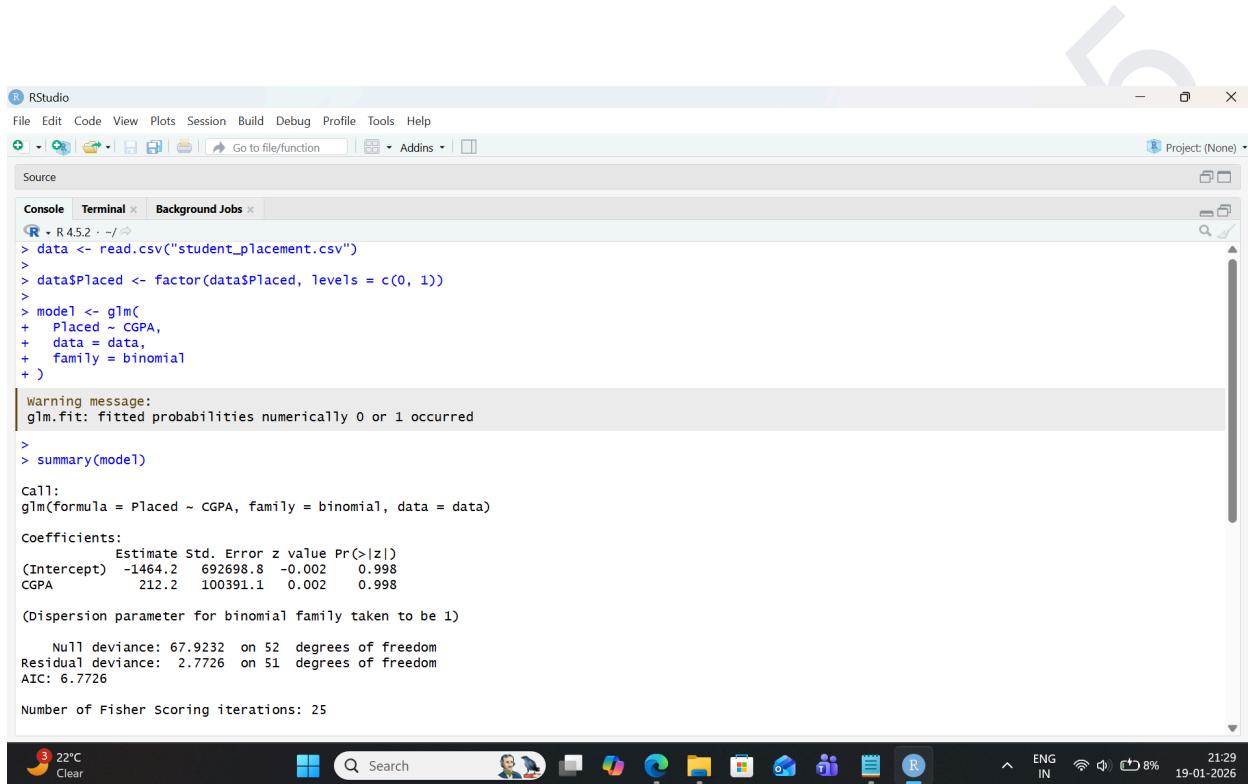


Practical No 14 Module II

Aim : Performing logistic regression using `glm()` (R).

Output :



The screenshot shows the RStudio interface with the following content:

```
R - R 4.5.2 · ~/r
> data <- read.csv("student_placement.csv")
> data$Placed <- factor(data$Placed, levels = c(0, 1))
>
> model <- glm(
+   Placed ~ CGPA,
+   data = data,
+   family = binomial
+ )
Warning message:
glm.fit: fitted probabilities numerically 0 or 1 occurred
>
> summary(model)

Call:
glm(formula = Placed ~ CGPA, family = binomial, data = data)

Coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) -1464.2    692698.8  -0.002    0.998
CGPA         212.2     100391.1   0.002    0.998

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 67.9232 on 52 degrees of freedom
Residual deviance: 2.7726 on 51 degrees of freedom
AIC: 6.7726

Number of Fisher Scoring iterations: 25
```

The R console output shows the execution of R code to read a CSV file, create a factor variable, build a logistic regression model using the `glm` function with a binomial family, and then print the model summary. The summary includes coefficients for the intercept and CGPA, dispersion parameters, and information about the deviance and AIC.

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SUBJECT : R Programming

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)
Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/~
(Dispersion parameter for binomial family taken to be 1)

Null deviance: 67.9232 on 52 degrees of freedom
Residual deviance: 2.7726 on 51 degrees of freedom
AIC: 6.7726

Number of Fisher Scoring iterations: 25

> csgpa_seq <- seq(min(data$CGPA), max(data$CGPA), length.out = 200)
>
> predicted_prob <- predict(
+   model,
+   newdata = data.frame(CGPA = csgpa_seq),
+   type = "response"
+ )
>
> plot(
+   data$CGPA,
+   as.numeric(as.character(data$Placed)),
+   xlab = "CGPA",
+   ylab = "Placement Probability",
+   pch = 16
+ )
>
> lines(
+   csgpa_seq,
+   predicted_prob,
+   lwd = 3
+ )
> |
```

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