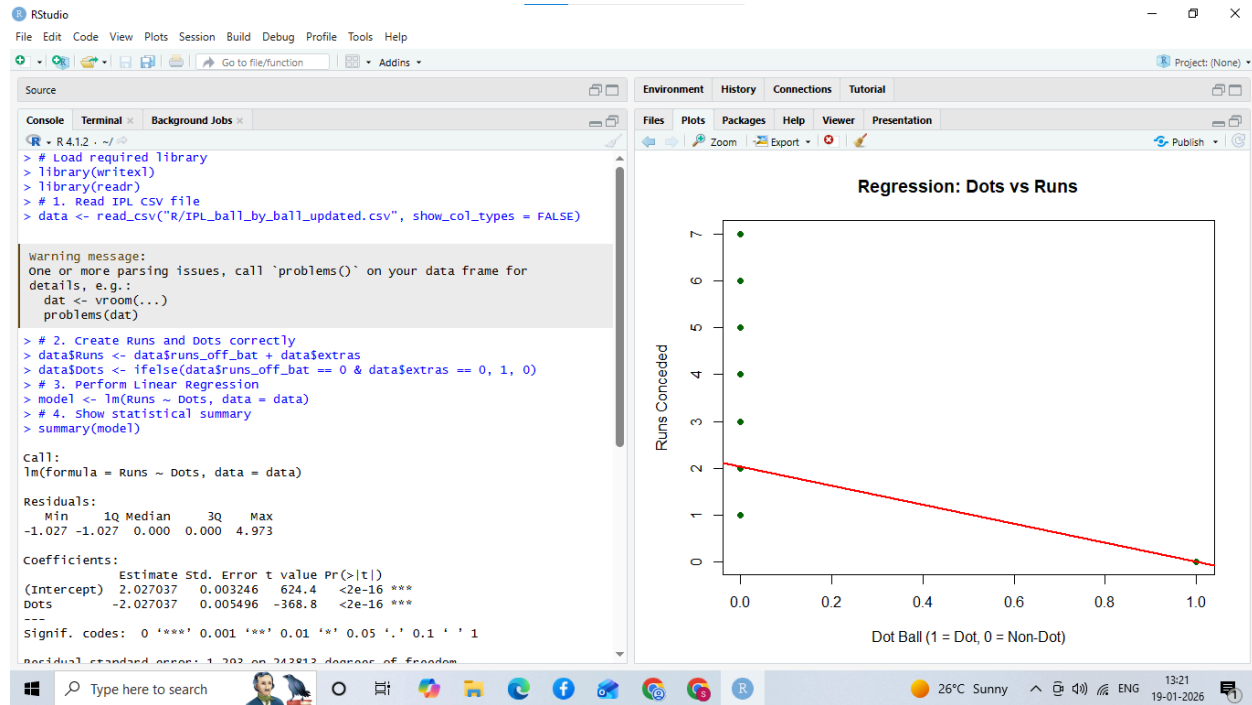## PRACTICAL NO 13
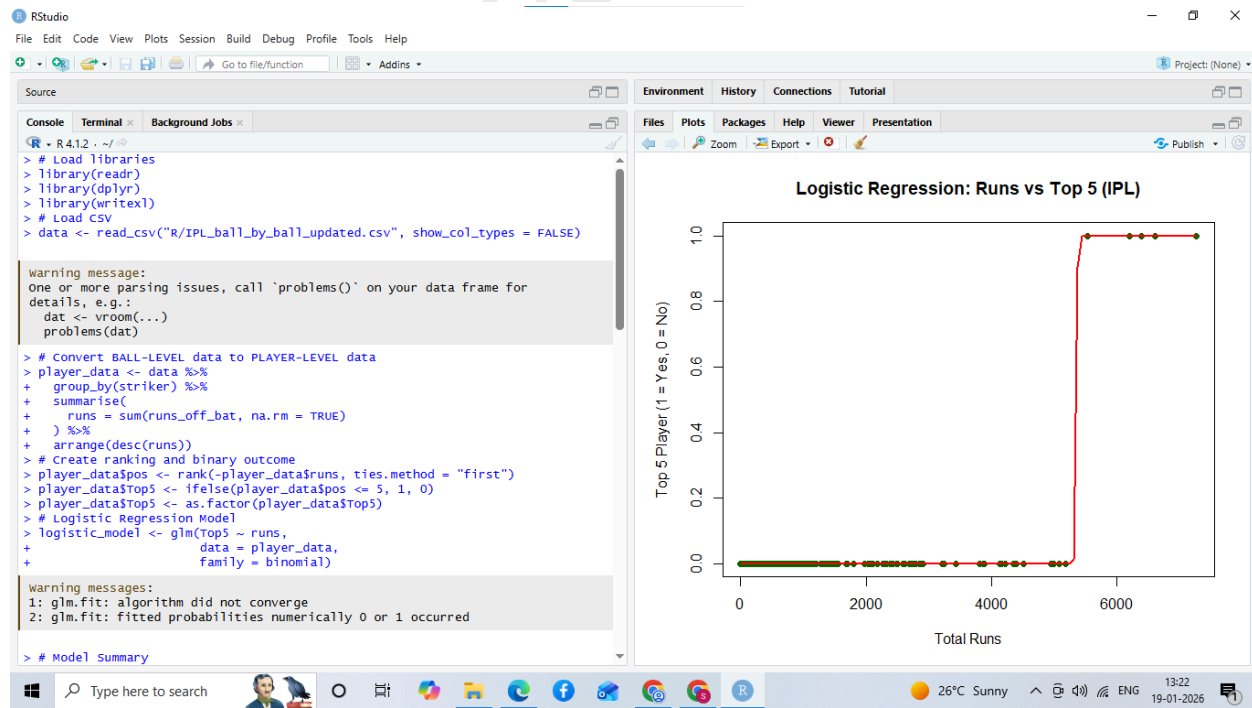
AIM:Performing linear regression analysis using lm() (R).
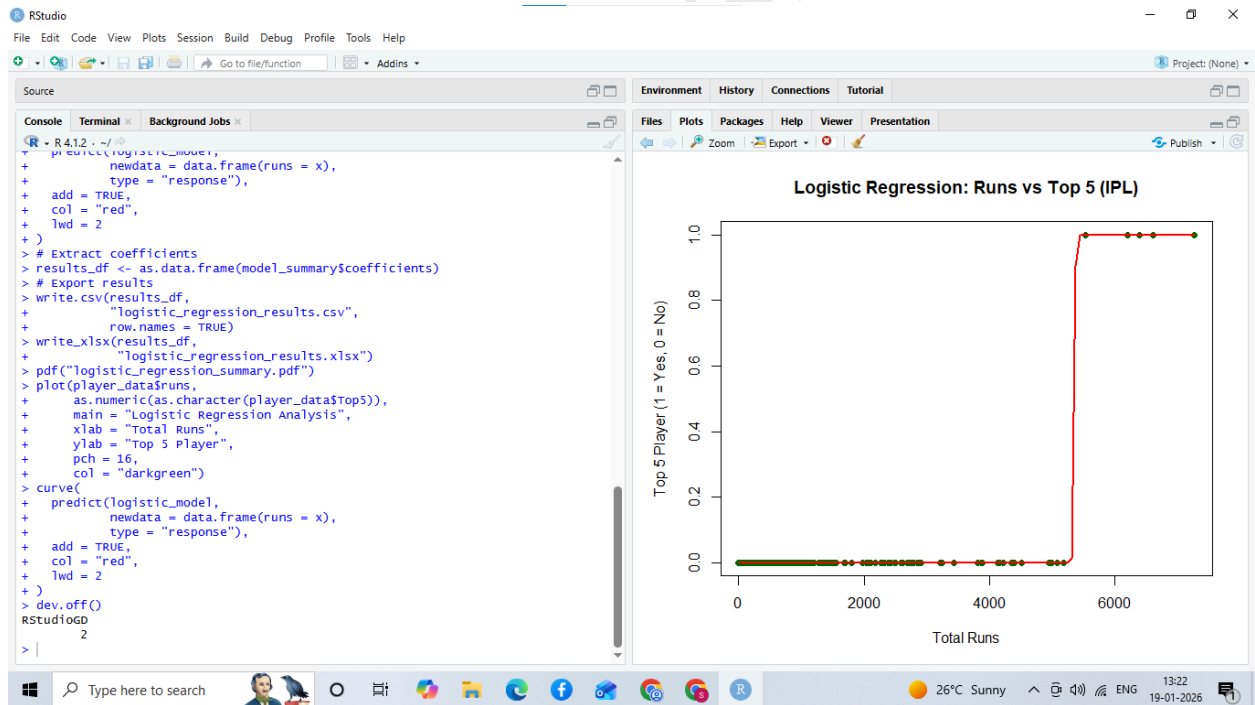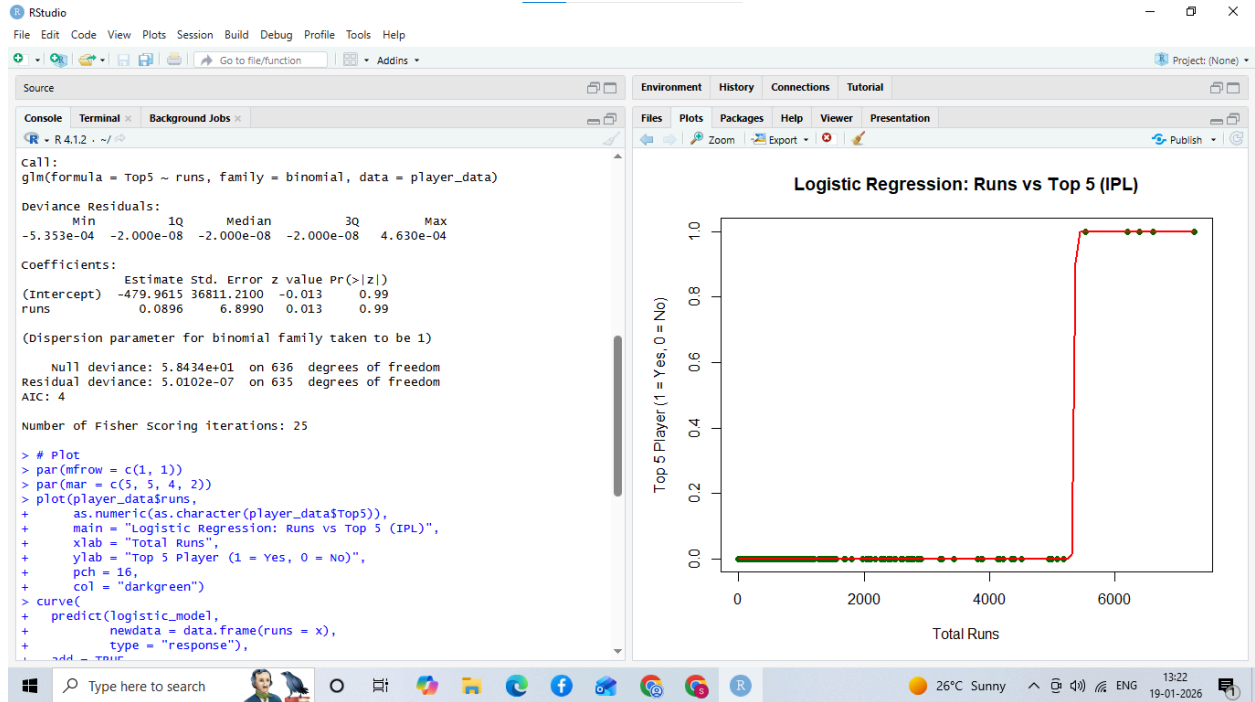

PRACTICAL NO 14

AIM:Performing logistic regression using glm() (R).

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```
Call:
glm(formula = Top5 ~ runs, family = binomial, data = player_data)

Deviance Residuals:
       Min          1Q      Median          3Q         Max
-5.353e-04  -2.000e-08  -2.000e-08  -2.000e-08   4.630e-04

Coefficients:
              Estimate Std. Error z value Pr(>|z|)
(Intercept)  -479.9615 36811.2100  -0.013     0.99
runs            0.0896     6.8990   0.013     0.99

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 5.8434e+01  on 636  degrees of freedom
Residual deviance: 5.0102e-07  on 635  degrees of freedom
AIC: 4

Number of Fisher Scoring iterations: 25

> # Plot
> par(mfrow = c(1, 1))
> par(mar = c(5, 5, 4, 2))
> plot(player_data$runs,
+      as.numeric(as.character(player_data$Top5)),
+      main = "Logistic Regression: Runs vs Top 5 (IPL)",
+      xlab = "Total Runs",
+      ylab = "Top 5 Player (1 = Yes, 0 = No)",
+      pch = 16,
+      col = "darkgreen")
> curve(
+   predict(logistic_model,
+           newdata = data.frame(runs = x),
+           type = "response"),
+   add = TRUE,
```



```
+   predict(logistic_model,
+           newdata = data.frame(runs = x),
+           type = "response"),
+   add = TRUE,
+   col = "red",
+   lwd = 2
+ )
> # Extract coefficients
> results_df <- as.data.frame(model_summary$coefficients)
> # Export results
> write.csv(results_df,
+           "logistic_regression_results.csv",
+           row.names = TRUE)
> write_xlsx(results_df,
+            "logistic_regression_results.xlsx")
> pdf("logistic_regression_summary.pdf")
> plot(player_data$runs,
+      as.numeric(as.character(player_data$Top5)),
+      main = "Logistic Regression Analysis",
+      xlab = "Total Runs",
+      ylab = "Top 5 Player",
+      pch = 16,
+      col = "darkgreen")
> curve(
+   predict(logistic_model,
+           newdata = data.frame(runs = x),
+           type = "response"),
+   add = TRUE,
+   col = "red",
+   lwd = 2
+ )
> dev.off()
RStudioGD
        2
>
```

PRACTICAL NO 15

Exporting results into external files (Excel, CSV, PDF) using write.csv() and writexl (R).

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