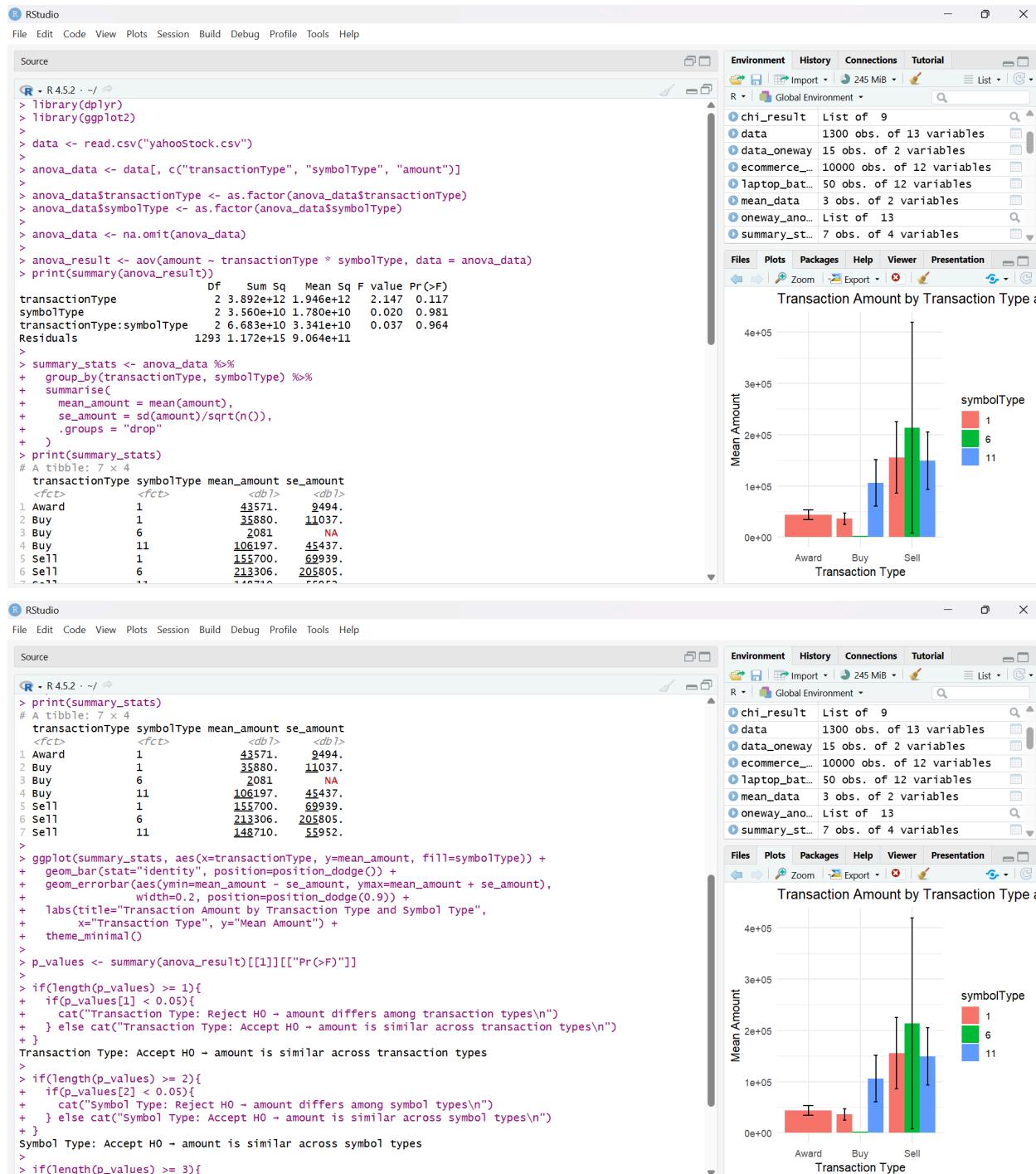


Sheth I.u.j. And sir m.v. college of arts science and commerce

Practical no. 8 mod2

Aim: Performing two-way ANOVA using aov() (R).



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The screenshot shows the RStudio interface. The Source pane contains R code for statistical analysis, including ggplot creation and ANOVA summary interpretation. The Environment pane shows global variables like `chi_resu`, `data`, etc. The Console pane at the bottom shows the command `print("simran s113")` and its output `[1] "simran s113"`.

```
R 4.5.2 · ~/r
6 sell      6      213306.  205805.
7 Sell     11      148710.  55952.
>
> ggplot(summary_stats, aes(x=transactionType, y=mean_amount, fill=symbolType)) +
+   geom_bar(stat="identity", position=position_dodge()) +
+   geom_errorbar(aes(ymin=mean_amount - se_amount, ymax=mean_amount + se_amount),
+                 width=0.2, position=position_dodge(0.9)) +
+   labs(title="Transaction Amount by Transaction Type and Symbol Type",
+        x="Transaction Type", y="Mean Amount") +
+   theme_minimal()
>
> p_values <- summary(anova_result)[[1]][["Pr(>F)"]]
>
> if(length(p_values) >= 1){
+   if(p_values[1] < 0.05){
+     cat("Transaction Type: Reject H0 → amount differs among transaction types\n")
+   } else cat("Transaction Type: Accept H0 → amount is similar across transaction types\n")
+ }
Transaction Type: Accept H0 → amount is similar across transaction types
>
> if(length(p_values) >= 2){
+   if(p_values[2] < 0.05){
+     cat("Symbol Type: Reject H0 → amount differs among symbol types\n")
+   } else cat("Symbol Type: Accept H0 → amount is similar across symbol types\n")
+ }
Symbol Type: Accept H0 → amount is similar across symbol types
>
> if(length(p_values) >= 3){
+   if(p_values[3] < 0.05){
+     cat("Interaction: Reject H0 → interaction exists between transaction type and symbol type\n")
+   } else cat("Interaction: Accept H0 → no significant interaction\n")
+ }
Interaction: Accept H0 → no significant interaction
>
> print("simran s113")
[1] "simran s113"
> |
```

Name: Simran s113

Transaction Amount by Transaction Type

