



Progressive Education Society's
Modern College of Engineering, Shivajinagar, Pune-05.
(An Autonomous Institute Affiliated to Savitribai Phule Pune University)
Department of MCA

PRACTICAL SUBMISSION RECORD- A.Y. 2025-26

Class: SYMCA Division : A Semester: III	Course Code: MCA01604 Course Name: Data Science Laboratory	Batch: S2
Name: Pranav Raju Malwatkar	Roll No: 52037	
CO No: CO605.1	Assignment No: 9	

Title : Use the Apriori algorithm on the grocery dataset with minimum support to 0.001 and minimum confidence of 0.8 indicate the top 5 association rules that are generated and highlight the strong ones, sort them by confidence.

Code:

```
# Load required libraries
library(arules)
library(arulesViz)

# Load the Groceries dataset
data("Groceries")

# View dataset summary
summary(Groceries)

# -----
# Run Apriori algorithm
# -----
rules <- apriori(Groceries,
  parameter = list(supp = 0.001, conf = 0.8, target = "rules"))

# Display summary of generated rules
summary(rules)

# -----
# Sort rules by confidence and select top 5
# -----
sorted_rules <- sort(rules, by = "confidence", decreasing = TRUE)
top5_rules <- head(sorted_rules, 5)

# Display the top 5 rules
```



Progressive Education Society's
Modern College of Engineering, Shivajinagar, Pune-05.
(An Autonomous Institute Affiliated to Savitribai Phule Pune University)
Department of MCA

```
cat("\nTop 5 Association Rules (sorted by confidence):\n")
inspect(top5_rules)
```

```
# -----
# Highlighting strong rules (confidence > 0.9)
# -----
strong_rules <- subset(top5_rules, confidence > 0.9)
```

```
cat("\nStrong Rules (Confidence > 0.9):\n")
if (length(strong_rules) > 0) {
  inspect(strong_rules)
} else {
  cat("No strong rules with confidence > 0.9 found.\n")
}
```

```
# -----
# Visualization
# -----
# Plot all rules (optional)
plot(sorted_rules[1:10], method = "graph", control = list(type = "items", main = "Top 10 Association Rules"))
```

```
# Highlight strong rules in a different color
if (length(strong_rules) > 0) {
  plot(strong_rules, method = "graph", control = list(type = "items", main = "Strong Rules (Confidence > 0.9)"))
}
```

Output :



Progressive Education Society's
Modern College of Engineering, Shivajinagar, Pune-05.
(An Autonomous Institute Affiliated to Savitribai Phule Pune University)
Department of MCA

