

Analyze Sales

CS5200 Practicum 1

Krishnappa, Kushal

Spring 2025

```
# clean the environment
rm(list = ls())
```

```
*****
## Install Required Packages
## @param packages - list of packages
*****
installPackagesOnDemand <- function(packages) {
  installed_packages <- packages %in% rownames(installed.packages())
  if (any(installed_packages == FALSE)) {
    install.packages(packages[!installed_packages])
  }
}
```

```
*****
## Load Required Packages
## @param packages - list of packages
*****
loadRequiredPackages <- function(packages) {
  # load required packages
  for (package in packages) {
    suppressMessages({
      library(package, character.only = TRUE)
    })
  }
}
```

```
# required packages
packages <- c("RMySQL", "DBI", "testthat", "kableExtra", "tinytex")
```

```
# install and load required packages
installPackagesOnDemand(packages)
loadRequiredPackages(packages)
```

```
*****
## Close Db Connections Over Threshold
*****
closeDbConnectionsOverThreshold <- function() {
  threshold <- 10 # Aiven allows 16 open connections, threshold is set to 10
  currentOpenConnections <- dbListConnections(MySQL())
```

```

if (length(currentOpenConnections) > threshold) {
  for (conn in currentOpenConnections) {
    dbDisconnect(conn)
  }
}
}

#####
## Connect to MySQL Database
#####
connectToDatabase <- function() {
  # db credentials
  dbName <- "defaultdb"
  dbUser <- "avnadmin"
  dbPassword <- "AVNS_-yK2PI98zqMdU4P-eud"
  dbHost <- "krishnappak-db-cs5200-dbms.d.aivencloud.com"
  dbPort <- 20057

  tryCatch({
    closeDbConnectionsOverThreshold() # Aiven allows 16 open connections
    dbCon <- dbConnect(
      RMySQL::MySQL(),
      user = dbUser,
      password = dbPassword,
      dbname = dbName,
      host = dbHost,
      port = dbPort
    )
    return(dbCon)
  }, error = function(err) {
    stop("Database connection failed.")
  })
}

# connect to database
dbCon <- connectToDatabase()

```

Table 1: Restaurant Revenue Analysis

Restaurant	Total Visits	Unique Customers	Loyalty Customers	Total Revenue (Food + Alcohol)
Big Bite Burgers	6970	3	3	277020.6
Bite & Bun	7016	5	5	274248.1
The Burger Joint	6927	4	4	271211.5
Bun Fi	6779	3	3	269263.9
Stacked & Sizzled	6155	5	5	245309.2
Flame Shack	6158	3	3	244868.6
Patty Palace	5784	4	4	232668.6
Grill & Thrill	5533	2	2	222713.2
Burger Haven	4702	3	3	185314.1

Table 2: Annual Revenue Analysis

Year	Total Revenue (Food + Alcohol)	Avg Per Party Spent	Avg Party Size
2018	303343.6	39.73	2.14
2019	456590.8	39.85	2.36
2020	500901.4	39.31	2.27
2021	645308.1	39.50	2.31
2022	1208142.6	39.45	2.34
2023	1145689.2	39.37	2.31
2024	1264824.7	39.56	2.17

Analysis by Restaurant

Analysis by Year

Trend by Year

