VELAMMAL VIDHYASHRAM
SURAPET

COMPUTER SCIENCE

CAFETERIA MANAGEMENT SYSTEM

ACADEMIC YEAR : 2024-2025

HARISH KUMAR M V

XII – A

BONAFIDE CERTIFICATE

This is to certify that this **COMPUTER SCIENCE** Project on the topic "CAFETERIA MANAGEMENT SYSTEM" has been successfully completed by **HARISH KUMAR M V** of class **XII – A**, Roll. No: at Velammal Vidhyashram, Surapet, for the partial fulfillment of this project as a part of **Senior Secondary Certificate Examination –** CBSE, New Delhi for the academic Year **2024- 2025**.

Date :

Signature of Principal

Teacher in-charge

Signature of the Internal Examiner

Signature of the External Examiner

ACKNOWLEDGEMENT

Apart from the efforts of me, the success of any project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project.

I express deep sense of gratitude to almighty God for giving me strength for the successful completion of the project.

I express my heartfelt gratitude to my parents and siblings for constant encouragement while carrying out this project.

I gratefully acknowledge the contribution of the individuals who contributed in bringing this project up to this level, who continues to look after me despite my flaws.

I express my deep sense of gratitude to **The Principal**, Velammal Vidhyashram, Surapet who has been continuously motivating and extending their helping hand to us.

My sincere thanks to **Mrs. Deivanai**, Master In-charge, A guide, Mentor all the above a friend, who critically reviewed my project and helped in solving each and every problem, occurred during implementation of the project

The guidance and support received from all the members who contributed and who are contributing to this project, was vital for the success of the project. I am grateful for their constant support and help.

TABLE OF CONTENTS

ABSTRACT

The Cafeteria Management System is a console-based application developed using Python and MySQL Database. This project offers a comprehensive solution for cafeteria operations, featuring user login, customer management, inventory control, transaction processing, and billing facilities. The system enables users to perform essential tasks such as managing stock items, processing customer orders, and generating reports. By streamlining these functions, the Cafeteria Management System aims to enhance operational efficiency and improve overall management of cafeteria resources.

SYSTEM REQUIREMENTS

HARDWARE CONFIGURATION

- **Operating System :** Windows 10 or later, macOS 10.14 (Mojave) or later, Ubuntu 18.04 LTS or later
- **Processor:**
    - *x86-64:* Intel Core i3 or equivalent AMD processor
    - *ARM:* Apple M1 or equivalent
- **Memory:** 4 GB RAM or more
- **Disk space:** 500 MB of free disk space
- **Display:** 1366x768 or higher-resolution monitor
- **Other Devices:** Keyboard and mouse or other pointing device

SOFTWARE REQUIREMENTS

- 1 GB RAM (2 GB+ recommended)
- Python 3.7 or higher
- MySQL Server 8.0 or higher
- MySQL Connector for Python
- Terminal emulator supporting ANSI escape codes for color output
- Intel® Pentium® or compatible, 1.6 GHz minimum (2GHz+ recommended)

INTRODUCTION

The Cafeteria Management System is a comprehensive solution designed to streamline and enhance the operations of school cafeterias. This system enables efficient management of information and data related to all aspects of cafeteria operations - processes, staff, customers, menu items, and more, ensuring that daily cafeteria functions are completed swiftly and effectively.

The Cafeteria Management System provides a centralized source of information about customers, menu items, and staff. It securely stores data and controls access based on user roles and circumstances. This system enhances the ability of cafeteria staff to coordinate their work by providing real-time information about stock levels, sales, and customer preferences at the point of service.

Developed using Python and MySQL, this system offers a convenient and effective way to store and manage cafeteria data. The primary aim of this system is to streamline cafeteria operations, improve customer service, and aid in the efficient completion of tasks by cafeteria staff. It manages data related to various aspects of cafeteria operations, including inventory management, sales tracking, and financial reconciliation.

The interface is designed to be user-friendly, allowing for easy data entry and retrieval. Data is well-protected for authorized use only, and the system is optimized for fast data processing. This makes it an invaluable tool for modern school cafeteria management, enhancing efficiency, accuracy, and overall service quality.

OBJECTIVES OF THE PROJECT

- Define and implement a comprehensive Cafeteria Management System
- Store information about customers and their transactions
- Generate detailed reports for various aspects of cafeteria operations
- Store and manage daily stock receipts and inventory levels
- Keep track of menu items, their prices, and availability
- Manage staff information and calculate incentives based on sales performance

These are the various tasks that need to be performed in a school cafeteria by the operational staff. Our Cafeteria Management System aims to digitize and streamline these processes:

1. Customer Management
2. Menu Item Management
3. Daily Stock Management
4. Sales and Billing
5. Report Generation
6. Staff Management and their sales performance

Goals :

- User-friendly interface for easy adoption by cafeteria staff
- Fast and efficient data processing for real-time operations
- Cost-effective solution for school cafeteria management
- Comprehensive data collection and storage for customers, staff, and transactions
- Flexible reporting system for fast decision-making

PROPOSED SYSTEM

Customer Information Management

- Customer details, including name, type (student/staff), and unique customer code, are stored in a digital database.
- Information is entered once and can be easily retrieved, updated, or deleted as needed.
- The system maintains a history of customer transactions, allowing to retrieve past purchase information.

Menu and Pricing Management

- Menu items are stored in the database with their respective prices.
- Prices can be easily updated, and new items can be added or removed as needed.
- The system allows for real-time updates to the menu, ensuring accurate pricing and availability information.

Daily Stock Management

- Daily stock receipts are recorded in the system, tracking the quantity of each item received.
- The system automatically updates inventory levels as sales occur, providing real-time stock information.
- Low stock alerts can be generated to assist in timely replenishment of items.

Sales and Billing

- Bills are generated automatically based on the items selected and their current prices.
- The system calculates the total amount, eliminating manual calculation errors.
- Each transaction is linked to a specific customer and staff member, allowing for detailed tracking and analysis.

Reporting and Analysis

- The system generates various reports, including daily sales reconciliation, stock receipts, and staff incentives.
- Historical data is retained, allowing for trend analysis and informed decision-making.
- Customizable reports can be generated based on specific date ranges or other parameters.

Staff Management and Incentives

- Staff information is stored in the system, including login credentials and roles.
- The system automatically calculates staff incentives based on their sales performance.
- Administrator accounts have additional privileges for system management and report generation.

Extra Features

- Color-coded console interface for improved user experience and easier navigation.
- Multi-level authentication system to ensure data security and appropriate access control.
- Real-time updates to stock levels as sales occur, preventing overselling of items.
- Ability to view and reprint past bills, improving customer service capabilities.
- Automated daily closing process, including sales reconciliation and stock updates.

This digital system replaces the need for manual record-keeping and paper-based processes. It reduces the workload on cafeteria staff, minimizes errors in calculations and record-keeping, and provides quick access to important information. The system's ability to generate reports and analyze data aids in better decision-making for cafeteria management.

LIBRARIES AND FUNCTIONS USED

- **mysql.connector:** MySQL Connector enables Python programs to access MySQL databases using an API compliant with the Python Database API Specification v2.0 (PEP 249). It is written in pure Python and does not have any dependencies except for the Python Standard Library.
- **connect() method:** Establishes a connection to the MySQL database. Parameters include host, user, passwd, and db, which define the database credentials and connection details
- **cursor() method:** The cursor() method creates a cursor to execute SQL queries and fetch results. A cursor is essentially a database object that enables the execution of queries and retrieval of data. With a cursor, you can send commands to the database and handle the results efficiently.
- **execute() method:** This method executes the given database operation (query or command)
- **commit() method:** This method sends a COMMIT statement to the MySQL server, committing the current transaction. Since by default Connector/Python does not auto commit, it is important to call this method after every transaction that modifies data for tables that use transactional storage engines.

User-defined functions:

- **log(kind, msg):** Provides formatted logging with different message types (INFO, ERROR, SUCCESS, WARNING) and their corresponding terminal formatting.
- **printBanner():** Displays a formatted banner in the terminal.
- **printTitle(title):** Prints a formatted title with custom text.
- **genTable(data, headers):** Generates a table with data and headers to display in the terminal.
- **format_row(row, width):** Formats a row of data with a specified width for the table display.
- **validateInput(prompt, dataType):** Validates user input based on the expected data type.

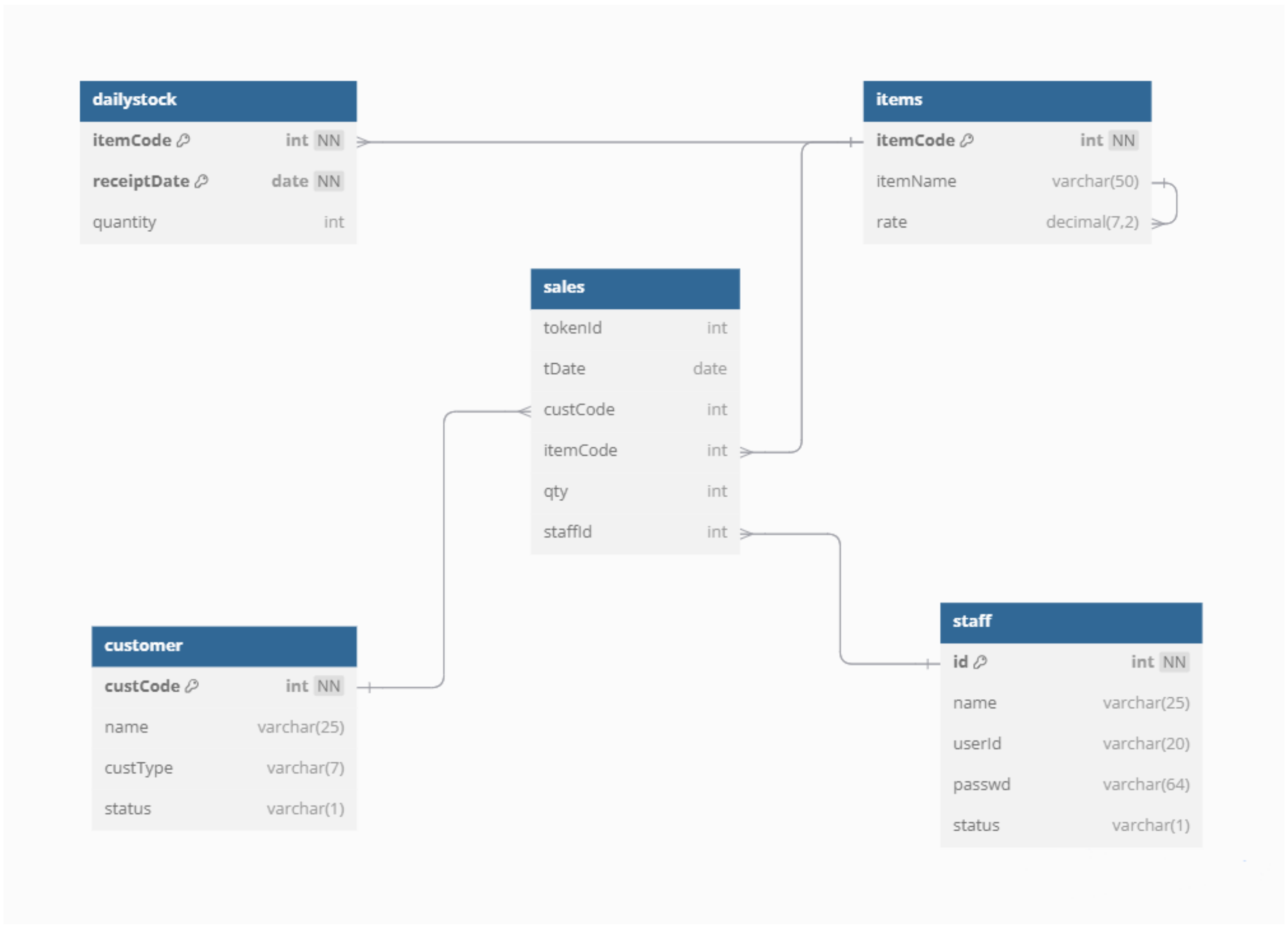
- **inputLOV(prompt, options):** Prompts the user to select from a list of values (LOV).
- **inputDate(prompt):** Prompts the user to enter a date and validates the format.
- **printReport(reportData):** Prints a report based on the provided data.
- **staffMan():** Handles staff management operations.
- **custMan():** Handles customer management operations.
- **menuMan():** Manages the cafeteria menu, including adding or updating items.
- **getReceiptData():** Retrieves receipt data for customer billing.
- **stockMan():** Manages the stock of items in the cafeteria.
- **addBill():** Adds a bill to the system after a transaction is completed.
- **salesMan():** Manages sales operations and keeps track of sales data.
- **repMan():** Manages reports related to cafeteria sales and operations.
- **mainMenu():** Displays the main menu for the system and navigates to different sections.

MYSQL QUERIES USED IN THIS PROJECT

Other than the basic DDL and DML commands, the following kinds of MySQL joins and queries are used in the project:

- **Equi-join:** An equi-join is a type of join where the condition is based on equality (=) between columns from two tables. This join retrieves matching rows from both tables based on the specified condition.
- **Inline queries:** An inline query is an SQL query that is written directly within another SQL statement, often inside a SELECT clause, WHERE clause, or even in a JOIN. Inline queries are typically used to compute values or filter results based on sub-queries in the same SQL statement, helping to avoid the need for multiple separate queries
- **NULL Handling:** In SQL, NULL represents the absence of a value. Special handling is required for NULL because NULL values do not behave like normal values. You cannot compare NULL using standard operators like = or !=. Instead, SQL provides special handling functions and operators for NULL values. To replace NULL with another value, the IFNULL() function is used.
- **Subquery:** A subquery is a query nested inside another SQL query. It is used to perform more complex operations by allowing one query to rely on the result of another. Subqueries can be placed inside SELECT, INSERT, UPDATE, or DELETE statements, and are commonly found in the WHERE clause, FROM clause, or as part of a SELECT field.

ENTITY RELATIONSHIP DIAGRAM FOR DATABASE



SOURCE CODE

```
# The School Cafeteria Management System
# Written by M.V.Harish Kumar - Grade 12 'A'
import mysql.connector as ms

# ********** Terminal Formatting codes and settings **********
cols = " " * 40

# Colour Codes
clrReset = '\033[00m'
clrBold = '\033[01m'
clrBlink = '\033[05m'
clrClear = '\033[2J\033[H'
clrRed = '\033[31m'
clrGreen = '\033[32m'
clrYellow = '\033[93m'

# ********** Logging Function **********
def log(kind, msg):
    kinds = {
            'I': ('INFO', clrBold, ''),
            'E': ('ERROR', clrRed, '\a'),
            'S': ('SUCCESS', clrGreen, ''),
            'W': ('WARNING', clrYellow, '\a')
    }
    k, c, a = kinds[kind]
    print(a, cols, "{}{}:".format(c,k), msg, clrReset)

# ********** Connect to Database **********
try:
    dbConnError = False
    conn = ms.connect(host="localhost",user="cafeAdmin",passwd="cafe@p$wd",
db="cafeteria")
except:
    dbConnError = True
    log('E', "Server Error Occured\n{0}\tCan't connect to Database Server
\n{0}\tPlease try again".format(cols))

# ********** CMDLINE Printing and Formatting Helpers **********
def printBanner(pStr, asStr=False):
    border = cols + "+-{}-+".format('-'*len(pStr)) + "\n"
    if not asStr:
        pStr = clrBlink + clrBold + pStr + clrReset
    banStr = border + cols + "| {} |".format(pStr) + '\n' + border
    if not asStr:
        print(banStr)
    return banStr
```

```python
def printTitle(titleStr):
    print(cols + '-' * len(titleStr))
    print(cols + clrBold + titleStr, clrReset)

def genTable(data, header=True, footer=False, colp=True):
    col_widths = [max(len(str(item)) for item in col) for col in zip(*data)]
    border = "+-" + "-+-".join("-" * width for width in col_widths) + "-+"
    table = [border]

    def format_row(row):
        return "| " + " | ".join(str(item).ljust(width) for item, width in
zip(row, col_widths)) + " |"

    table.append(format_row(data[0]))
    if header:
        table.append(border.replace("-", "="))
    for row in data[1:-1]:
        table.append(format_row(row))
    if footer:
        table.append(border.replace("-", "="))
    if len(data) != 1:
        table.append(format_row(data[-1]))
    table.append(border)

    return "\n".join([cols+row if colp else row for row in table])

# ********** Functions to sanitize inputs **********
def validateInput(prompt, vals=None, itype=str):
    while True:
        try:
            data = input(prompt)
            if itype != str:
                data = itype("0"+data)
            if vals is None or data in vals:
                return itype(data)
            log('E', "Invalid input for given options. Please try again")
        except ValueError:
            log('E', "Invalid input typed. Please try again")

def inputLOV(prompt, options):
    print("\n", prompt)
    print(genTable([((i+1), options[i]) for i in range(len(options))],
False))
    optId = validateInput(cols+clrBold+"ENTER AN OPTION: "+clrReset,
                          range(1, len(options)+1), int)
    return options[optId-1]
```

```
def inputDate(prompt):
    print(cols+prompt)
    d = validateInput(cols+"Enter date[1-31]: ", range(1, 32), int)
    m = validateInput(cols+"Enter month[1-12]: ", range(1, 13), int)
    y = validateInput(cols+"Enter year[YYYY]: ", range(2024, 2028), int)
    return "{}-{}-{}".format(y,m,d)

# ********** Function to generate Reports **********
def printReport(tagline, custData, repData, total=True):
    kind = validateInput("Do you want to print {} on screen[y/n]: 
".format(tagline), "yn")
    if kind == "y":
        printBanner("The Velammal Cafeteria - {} Report".format(tagline))
        for k, v in custData.items():
            if tagline == 'Incentive Report' and k == 'Date':
                k = 'Period'
            print(cols,"{}: {}".format(k, v))
        print(genTable(repData, footer=total))
    else:
        log('I', "Printing to file")
        bname = "{}_{}_{}.txt".format(tagline.replace(' ', ''), 
custData.get('custCode', ''), custData['Date'].replace('-', ''))
        with open(bname, 'w') as billF:
            billF.write(printBanner("The Velammal Cafeteria - {} 
Report".format(tagline), asStr=True)+'\n')
            for k, v in custData.items():
                billF.write(cols+"{}: {}\n".format(k, v))
            billF.write(genTable(repData, footer=total))
        log('S', "Succesfully printed {} report to {}".format(tagline, 
bname))

# ********** Function to Manage Staff Details **********
def staffMan(dbCur):
    options = ["Add new user", "Edit user details", "View users", "Delete 
user"]
    header = [('ID', 'Name', 'Username', 'Password', 'Status')]
    opt = inputLOV("How would you like to manage staffs?", options)

    if opt == "Add new user":
        printTitle("Adding new user")
        name = input(cols+"Enter Staff name: ")
        uname = input(cols+"Enter userid for user: ")
        passwd = input(cols+"Enter password for user: ")
        dbCur.execute("SELECT IFNULL(MAX(id), 0)+1 FROM staff")
        dbCur.execute("INSERT INTO staff VALUES ({}, '{}', '{}', '{}', 
'A')".format(dbCur.fetchone()[0], name, uname, passwd))
        conn.commit()
        log('S', "Added new user sucessfully!")
    elif opt == "Edit user details":
        printTitle("Updating User")
        log('I', "Leaving a field empty will retain the previous value")
        dbCur.execute("SELECT * FROM staff")
        table = dbCur.fetchall()
        print(genTable(header + table))
        uid = validateInput(cols+"Enter the user id to edit: ", [x[0] for x
in table], int)
        for rec in table:
            if rec[0] == uid:
                data = rec
                break
        name = input(cols+"Enter Staff name[Default: {}]: ".format(data[1]))
        if not name:
            name = data[1]
        uname = input(cols+"Enter userid[Default: {}]: ".format(data[2]))
        if not uname:
            uname = data[2]
        passwd = input(cols+"Enter password[Default: {}]: ".format(data[3]))
        if not passwd:
            passwd = data[3]
        sts = validateInput(cols+"Enter Status[(A)ctive/(I)nactive][Default:
{}]: ".format(data[4]), "AI")
        if not sts:
            sts = data[4]
        dbCur.execute("UPDATE staff SET name='{}',userid='{}',passwd='{}',
status='{}' WHERE id = {}".format(name, uname, passwd, sts, uid))
        conn.commit()
        log('S', "Updated user sucessfully!")

    elif opt == "View users":
        opt = inputLOV("How would you like to view users?", ["All",
"Search"])
        if opt == "All":
            _flagAll = True
            query = "SELECT * FROM staff"
        elif opt == "Search":
            _flagAll = False
            uid = validateInput(cols+"Enter the user id: ", None, int)
            query = "SELECT * FROM staff WHERE id = {}".format(uid)
        dbCur.execute(query)
        data = dbCur.fetchall()
        if data == [] and not _flagAll:
            log('I', "No such user with id {} found".format(uid))
        else:
            print(genTable(header + data))
    elif opt == "Delete user":
        printTitle("Deleting user")
        dbCur.execute("SELECT * FROM staff")
        data = dbCur.fetchall()
        print(genTable(header + data))
        uid = validateInput(cols+"Enter the user id to delete: ", [x[0] for
x in data], int)
        dbCur.execute("DELETE FROM staff WHERE id = {}".format(uid))
        conn.commit()
        log('S', "Deleted user sucessfully!")

# ********** Function to Manage Customer Details **********
def custMan(dbCur):
    options = ["Add new customer", "Edit customer details", "View
customers", "Delete customer"]
    header = [('custCode', 'Name', 'Type', 'Status')]
    kindSwitch = {'S': 'Student', 'T': 'Staff'}
    opt = inputLOV("How would you like to manage customers?", options)

    if opt == "Add new customer":
        printTitle("Adding new customer")
        name = input(cols+"Enter name of the customer: ")
        ckind = validateInput(cols+"Enter customer kind[(S)tudent/s(T)aff]:
", "ST")
        dbCur.execute("SELECT IFNULL(MAX(custCode),0)+1 FROM customer")
        dbCur.execute("INSERT INTO customer VALUES ({}, '{}', '{}', 'A')"\
                      .format(dbCur.fetchone()[0], name, kindSwitch[ckind]))
        conn.commit()
        log('S', "Added new customer sucessfully!")

    elif opt == "Edit customer details":
        printTitle("Updating customer")
        log('I', "Leaving a field empty will retain the previous value")
        dbCur.execute("SELECT * FROM customer")
        table = dbCur.fetchall()
        print(genTable(header + table))
        cid = validateInput(cols+"Enter the custCode to edit: ", [x[0] for x
in table], int)
        for rec in table:
            if rec[0] == cid:
                data = rec
                break
        name = input(cols+"Enter name[Default: {}]: ".format(data[1]))
        if not name:
            name = data[1]
        ckind = validateInput(cols+"Enter customer kind [(S)tudent/s(T)aff]
[Default: {}]: ".format(data[2]), "TS")
        ckind = kindSwitch.get(ckind, data[2])
        sts = validateInput(cols+"Enter Status[(A)ctive/(I)nactive][Default:
{}]: ".format(data[3]), "AI")
```

```
        if not sts:
            sts = data[3]
        dbCur.execute("UPDATE customer SET name='{}',custType='{}',
status='{}' WHERE custCode = {}".format(name, ckind, sts, cid))
        conn.commit()
        log('S', "Updated customer sucessfully!")

    elif opt == "View customers":
        opt = inputLOV("How would you like to view customers?", ["All",
"Search"])
        if opt == "All":
            _flagAll = True
            query = "SELECT * FROM customer"
        elif opt == "Search":
            _flagAll = False
            cid = validateInput(cols+"Enter the custCode: ", None, int)
            query = "SELECT * FROM customer WHERE custCode = {}".format(cid)
        dbCur.execute(query)
        data = dbCur.fetchall()
        if data == [] and not _flagAll:
            log('I', "No such customer with code {} found".format(cid))
        else:
            print(genTable(header + data))

    elif opt == "Delete customer":
        printTitle("Deleting customer")
        dbCur.execute("SELECT * FROM customer")
        data = dbCur.fetchall()
        print(genTable(header + data))
        cid = validateInput("Enter the custCode to delete: ", [x[0] for x in
data], int)
        dbCur.execute("DELETE FROM customer WHERE custCode =
{}".format(cid))
        conn.commit()
        log('S', "Deleted user sucessfully!")

# ********** Function to Manage Menu items **********
def menuMan(dbCur):
    options = ["Add item", "View items", "Update rate", "Delete item"]
    header = [("itemCode", "Item Name", "Rate")]
    opt = inputLOV("Choose an operation", options)

    if opt == "Add item":
        printTitle("Adding new menu Item")
        name = input(cols+"Enter name of menu item: ")
        rate = validateInput(cols+"Enter rate: ", None, float)
        dbCur.execute("SELECT IFNULL(MAX(itemCode),0)+1 FROM items")
        dbCur.execute("INSERT INTO items VALUES ({}, '{}', {})"\
                      .format(dbCur.fetchone()[0], name, rate))
        conn.commit()
        log('S', "Added new menu item successfully!")
    elif opt == "View items":
        dbCur.execute("SELECT * FROM items")
        print(genTable(header + dbCur.fetchall()))

    elif opt == "Update rate":
        printTitle("Updating rate")
        dbCur.execute("SELECT * FROM items")
        table = dbCur.fetchall()
        print(genTable(header + table))
        icd = validateInput(cols+"Enter the itemCode to edit: ", [x[0] for x
in table], int)
        rt = validateInput(cols+"Enter new rate: ", None, float)
        dbCur.execute("UPDATE items SET rate = {} where itemCode =
{}".format(rt,icd))
        conn.commit()
        log('S', "Updated rate sucessfully!")

    elif opt == "Delete item":
        printTitle("Deleting menu item")
        dbCur.execute("SELECT * FROM items")
        data = dbCur.fetchall()
        print(genTable(header + data))
        icd = validateInput(cols+"Enter the itemCode to delete: ", [x[0] for
x in data], int)
        dbCur.execute("DELETE FROM items WHERE itemCode = {}".format(icd))
        conn.commit()
        log('S', "Deleted item sucessfully!")

# ********** Function to input Receipt Data **********
def getReceiptData(dataTable):
    data = []
    opt = "y"
    while opt.lower() == 'y':
        print(genTable(dataTable))
        icd = validateInput(cols+"Enter itemCode: ", [x[0] for x in
dataTable[1:]], int)
        qty = validateInput(cols+"Enter quantity: ", None, int)
        data.append((icd, qty))
        opt = validateInput("Do you want to continue[y/n]: ", "yn")
    return data

# ********** Function to Manage Daily Stock items **********
def stockMan(dbCur):
    options = ["Add receipt", "View receipt", "Update quantity", "Delete
item"]
    header = [("itemCode", "Item Name", "Quantity")]
    opt = inputLOV("Choose an operation", options)
    if opt == "Add receipt":
        printTitle("Adding new receipt")
        dbCur.execute("SELECT * FROM items")

        dbCur.executemany("INSERT INTO dailyStock VALUES (%s,
current_date(), %s)", getReceiptData(header + dbCur.fetchall()))
        conn.commit()
        log('S', "Added receipt successfully!")

    elif opt == "View receipt":
        dbCur.execute("SELECT i.itemCode, i.itemName, s.quantity FROM
dailyStock s, items i WHERE i.itemCode = s.itemCode AND s.receiptDate =
current_date()")
        print(genTable(header + dbCur.fetchall()))

    elif opt == "Update quantity":
        printTitle("Updating quantity")
        dbCur.execute("SELECT i.itemCode, i.itemName, s.quantity FROM
dailyStock s, items i WHERE i.itemCode = s.itemCode AND s.receiptDate =
current_date()")
        table = dbCur.fetchall()
        print(genTable(header + table))
        icd = validateInput(cols+"Enter the itemCode to update: ", [x[0] for
x in table], int)
        qty = validateInput(cols+"Enter new quantity: ", None, int)
        dbCur.execute("UPDATE dailyStock SET quantity = {} WHERE itemCode =
{} AND receiptDate = current_date()".format(qty,icd))
        conn.commit()
        log('S', "Updated quantity sucessfully!")

    elif opt == "Delete item":
        printTitle("Deleting receipt item")
        dbCur.execute("SELECT i.itemCode, i.itemName, s.quantity FROM
dailyStock s, items i WHERE i.itemCode = s.itemCode AND s.receiptDate =
current_date()")
        table = dbCur.fetchall()
        print(genTable(header + table))
        icd = validateInput(cols+"Enter the itemCode to delete: ", [x[0] for
x in table], int)
        dbCur.execute("DELETE FROM dailyStock WHERE receiptDate =
current_date() AND itemCode = {}".format(icd))
        conn.commit()
        log('S', "Deleted item sucessfully!")

def addBill(dbCur, tokId, query):
    log('I', "Current Token id is {}".format(tokId))
    opt = "y"
    while opt.lower() == 'y':
        itemCodes = []
        dbCur.execute("SELECT i.itemCode, i.itemName, s.quantity FROM
dailyStock s, items i WHERE i.itemCode = s.itemCode AND s.receiptDate =
current_date()")
        header = [("itemCode", "itemName", "quantity")]
        table = dbCur.fetchall()
        print(genTable(header + table))
        icd = validateInput(cols+"Enter itemCode: ", [x[0] for x in table],
int)
        while True:
            qty = validateInput(cols+"Enter quantity: ", None, int)
            for rec in table:
                if rec[0] == icd:
                    threshold = rec[2]
                    break
            if qty <= threshold:
                dbCur.execute("UPDATE dailyStock SET quantity = quantity -
{} WHERE itemCode = {} AND receiptDate = current_date()".format(qty, icd))
                if icd in itemCodes:
                    dbCur.execute("UPDATE sales SET qty = qty + {} WHERE
tDate = current_date() AND tokenId = {} AND itemCode = {}".format(tokId,
icd))
                else:
                    itemCodes.append(icd)
                    dbCur.execute(query % (icd, qty))
                break
            log('E', "Only {} unit(s) is available, enter another
value".format(threshold))
        opt = validateInput("Do you want to continue[y/n]: ", "yn")

# ********** Function to Manage Daily Sales **********
def salesMan(dbCur, staffId):
    options = ["Add bill", "Update bill", "Delete bill"]
    itemHdr = [("itemCode", "Item Name", "Quantity")]
    custHdr = [("custCode", "Name", "Type")]
    billTokHdr = [('tokenId', 'Customer Name')]
    opt = inputLOV("Choose an operation", options)

    if opt == "Add bill":
        printTitle("Adding new bill")
        custData = {}
        dbCur.execute("SELECT * FROM customer")
        table = dbCur.fetchall()
        print(genTable(custHdr + table))
        custData['custCode'] = validateInput(cols+"Enter the custCode: ",
[x[0] for x in table], int)
        for rec in table:
            if rec[0] == custData['custCode']:
                custData['Name'] = rec[1]
        dbCur.execute("SELECT IFNULL(MAX(tokenId),0)+1 FROM sales WHERE
tDate = current_date()")
        custData['Token ID'] = dbCur.fetchone()[0]
        query = "INSERT INTO sales VALUES({}, current_date(), {}, %s, %s,
{})" .format(custData['Token ID'], custData['custCode'], staffId)
        addBill(dbCur, custData['Token ID'], query)
        conn.commit()
        log('S', "Added bill successfully!")

        pBill = validateInput("Do you want to print bill[y/n]: ", "yn")
        if pBill == 'y':
            dbCur.execute("SELECT current_date()")
            custData['Date'] = str(dbCur.fetchone()[0])
            dbCur.execute("SELECT i.itemName, s.qty, s.qty*i.rate FROM items
i, sales s WHERE i.itemCode = s.itemCode AND s.custCode = {} AND s.tokenId =
{} AND s.tDate = current_date()".format(custData['custCode'],
custData['Token ID']))
            billData, total = dbCur.fetchall(), 0
            for sno in range(len(billData)):
                total += billData[sno][2]
                billData[sno] = (sno+1,) + billData[sno]
            billData = [('SNO', 'Item', 'Quantity', 'Price')] + billData +
[('', '', 'Total', total)]
            printReport('Bill', custData, billData)

    elif opt == "Update bill":
        printTitle("Updating bill")
        dbCur.execute("SELECT DISTINCT s.tokenId, c.name FROM sales s,
customer c WHERE s.custCode = c.custCode AND s.tDate = current_date()")
        table = dbCur.fetchall()
        print(genTable(billTokHdr + table))
        tid = validateInput(cols+"Enter the tokenId to update: ", [x[0] for
x in table], int)
        dbCur.execute("SELECT s.itemcode, i.itemName, s.qty FROM items i,
sales s WHERE i.itemCode = s.itemCode AND s.tokenId = {} AND s.tDate =
current_date()".format(tid))
        billData = dbCur.fetchall()
        print(genTable(itemHdr + billData))
        icd = validateInput(cols+"Enter the itemCode to update: ", [x[0] for
x in billData], int)
        newQty = validateInput(cols+"Enter the Decrease in quantity: ",
None, int)
        for rec in billData:
            if rec[0] == icd:
                prevQty = rec[2]
                break
        if newQty <= prevQty:
            dbCur.execute("UPDATE dailyStock SET quantity = quantity + {}
WHERE itemCode = {} AND receiptDate = current_date()".format(newQty, icd))
            if newQty == prevQty:
                dbCur.execute("DELETE FROM sales WHERE itemCode = {} AND
tDate = current_date() AND tokenId = {}".format(icd, tid))
```

```
            else:
                dbCur.execute("UPDATE sales SET qty = qty - {} WHERE
itemCode = {} AND tDate = current_date() AND tokenId = {}".format(newQty,
icd, tid))
        else:
            log('W', 'Only decrease in quantity is supported. Add a new bill
to increase quantity')
        conn.commit()
        log('S', "Updated Bill Successfully")

    elif opt == "Delete bill":
        printTitle("Deleting bill")
        dbCur.execute("SELECT DISTINCT s.tokenId, c.name FROM sales s,
customer c WHERE s.custCode = c.custCode AND s.tDate = current_date()")
        data = dbCur.fetchall()
        print(genTable(billTokHdr + data))
        tid = validateInput(cols+"Enter the tokenId of bill to delete: ",
[x[0] for x in data], int)
        dbCur.execute("UPDATE sales s, dailyStock d SET d.quantity =
d.quantity + s.qty WHERE s.itemCode = d.itemCode AND s.tokenId = {} AND
s.tDate = current_date() AND d.receiptDate = current_date()".format(tid))
        dbCur.execute("DELETE FROM sales WHERE tDate = current_date() AND
tokenId = {}".format(tid))
        conn.commit()
        log('S', "Deleted bill sucessfully!")

# ********** Function to Manage Reports **********
def repMan(dbCur):
    options = ["Bill History", "Sales Reconcilation", "Stock Receipt",
"Incentive Report"]
    opt = inputLOV("Enter your choice: ", options)
    if opt != "Incentive Report":
        dt = inputDate("Date of History")
    else:
        m = validateInput(cols+"Enter month[1-12]: ", range(1, 13), int)
        y = validateInput(cols+"Enter year[YYYY]: ", range(2024, 2025), int)

    if opt == "Bill History":
        dbCur.execute("SELECT DISTINCT s.tokenId, c.custCode, c.name FROM
sales s, customer c WHERE tDate = '{}' AND c.custCode = s.custCode"
.format(dt))
        data = dbCur.fetchall()
        if data == []:
            log('E', 'No records found on date: {}'.format(dt))
        else:
            custData = {'Date': dt}
            print(genTable([('Token ID', 'custCode', 'Customer Name')] +
data))
            custData['Token ID'] = validateInput("Enter token id: ", [x[0]
for x in data], int)
```

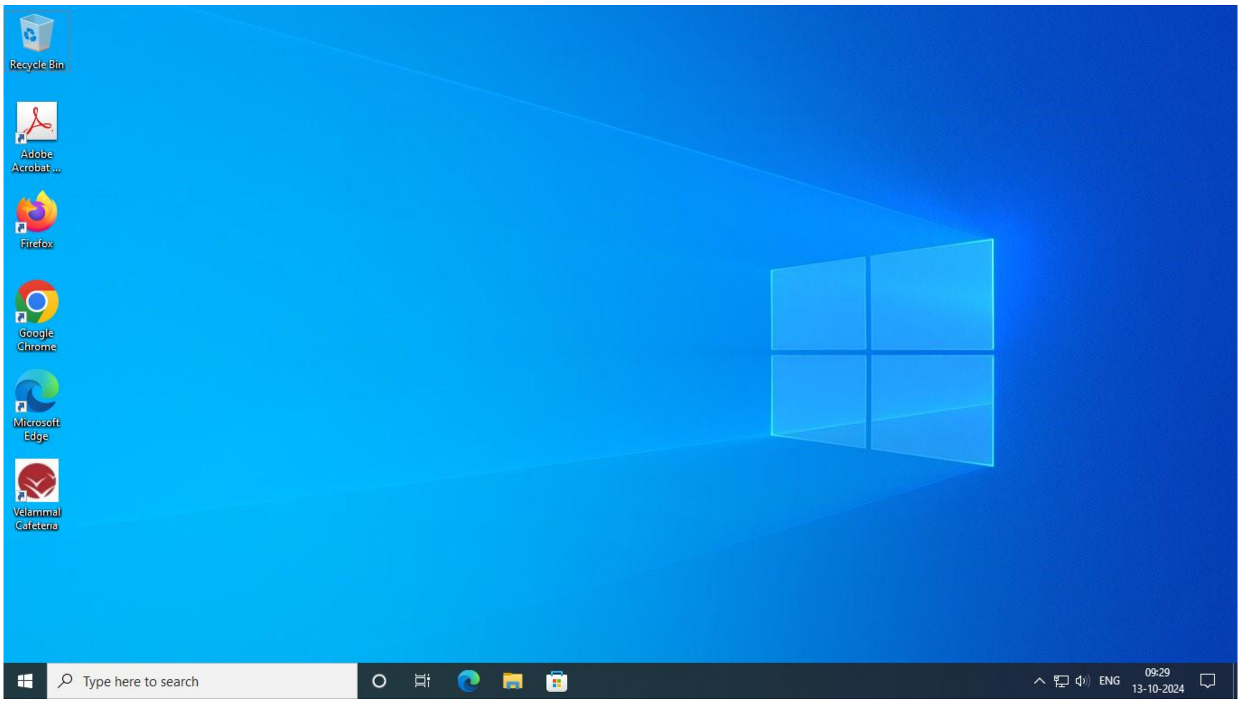
```
            for row in data:
                if row[0] == custData['Token ID']:
                    custData['custCode'] = row[1]
                    custData['Customer Name'] = row[2]
            dbCur.execute("SELECT i.itemName, s.qty, s.qty*i.rate FROM items
i, sales s WHERE i.itemCode = s.itemCode AND s.custCode = {} AND s.tokenId =
{} AND s.tDate = '{}'".format(custData['custCode'], custData['Token ID'],
dt))
            billData, total = dbCur.fetchall(), 0
            for sno in range(len(billData)):
                total += billData[sno][2]
                billData[sno] = (sno+1,) + billData[sno]
            billData = [('SNO', 'Item', 'Quantity', 'Price')] + billData +
[('', '', 'Total', total)]
            printReport('Bill', custData, billData, total)

    elif opt == "Sales Reconcilation":
        dbCur.execute("SELECT t.itemCode, i.itemName, t.sold+t.remaining,
t.sold, t.remaining FROM (SELECT d.itemCode, ifnull(sum(s.qty),0) sold,
d.quantity remaining FROM sales s RIGHT JOIN dailyStock d ON d.receiptDate =
'{0}' AND d.itemCode = s.itemCode GROUP BY itemCode, quantity) t, items i
WHERE i.itemCode = t.itemCode".format(dt))
        salesData = dbCur.fetchall()
        if salesData == []:
            log('E', 'No records found on date: {}'.format(dt))
        else:
            for sno in range(len(salesData)):
                salesData[sno] = (sno+1,) + salesData[sno]
            salesData = [('SNO', 'itemCode', 'Name', 'Quantity imported',
                          'Quantity sold', 'Remaining')] + salesData
            printReport('Sales Reconcilation', {'Date': dt}, salesData,
total=False)

    elif opt == "Stock Receipt":
        dbCur.execute("SELECT i.itemCode, i.itemName, s.quantity FROM
dailyStock s, items i WHERE i.itemCode = s.itemCode AND s.receiptDate =
'{}'".format(dt))
        receiptData = dbCur.fetchall()
        if receiptData == []:
            log('E', 'No records found on date: {}'.format(dt))
        else:
            for sno in range(len(receiptData)):
                receiptData[sno] = (sno+1,) + receiptData[sno]
            receiptData = [('SNO', 'itemCode', 'Name', 'Quantity')] +
receiptData
            printReport('Stock Receipt', {'Date': dt}, receiptData,
total=False)
```

```
    elif opt == "Incentive Report":
        dbCur.execute("SELECT s.staffId, u.Name, SUM(s.qty*i.rate) FROM
sales s, items i, staff u WHERE s.itemCode = i.itemCode AND s.staffId = u.id
AND MONTH(s.tDate) = {} AND YEAR(s.tDate) = {} GROUP BY staffId ORDER BY
SUM(s.qty*i.rate) DESC".format(m,y))
        incentiveData = dbCur.fetchall()
        period = '{}-{}'.format(m,y)
        if incentiveData == []:
            log('E', 'No records found on period: ' + period)
        else:
            for sno in range(len(incentiveData)):
                incentiveData[sno] = (sno+1,) + incentiveData[sno] +\
                      (round(float(incentiveData[sno][2])*0.02),)
            incentiveData = [('Rank', 'staffId', 'Name', 'Amount sold',
'Incentive')] + incentiveData
            printReport('Incentive Report', {'Date': period}, incentiveData,
total=False)

# ********** Main entry function for menu **********
def mainMenu(dbCur, userData):
    while True:
        try:
            options = ["User control", "Manage Customers", "Customize menu",
"Daily Stock receipt",
                       "Daily Sales entry", "Report generation", "Exit"]
            opt = inputLOV("What would you like to do?", options)
            if opt == "User control":
                if not userData['isAdmin']:
                    log('E', "User {} doesn't have rights to manage users!"
.format(userData['name']))
                else:
                    staffMan(dbCur)
            elif opt == "Manage Customers":
                if not userData['isAdmin']:
                    log('E', "User {} doesn't have rights to manage
customers!".format(userData['name']))
                else:
                    custMan(dbCur)
            elif opt == "Customize menu":
                menuMan(dbCur)
            elif opt == "Daily Stock receipt":
                stockMan(dbCur)
            elif opt == "Daily Sales entry":
                salesMan(dbCur, userData["staffId"])
            elif opt == "Report generation":
                repMan(dbCur)
            elif opt == "Exit":
                print(cols, "Logging out user:
{}...".format(userData['name']))
                userData.clear()
                break
```

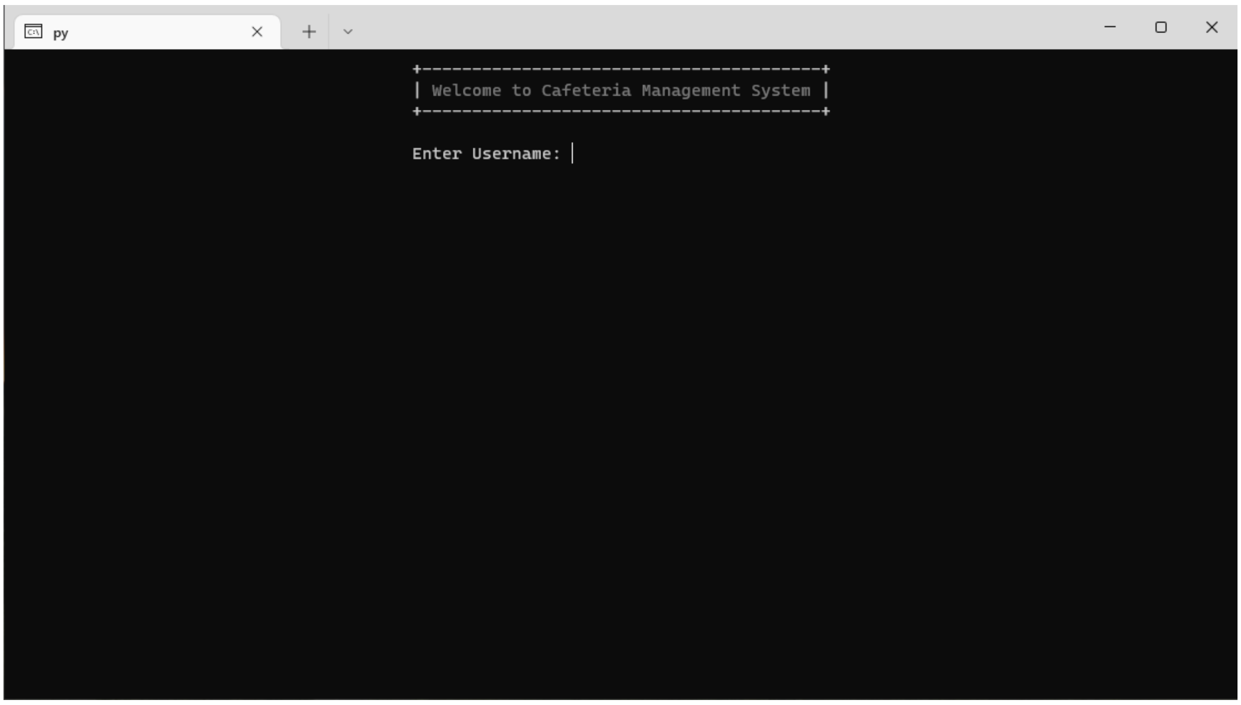
```python
        except KeyboardInterrupt:
            print()
            log('W', "User Interrupted Operation.")
        except Exception as e:
            log('E', "FATAL ERROR OCCURED")
            log('E', "The error message was:")
            log('E', str(e))

    log('S', "Successfully logged out!")
    print(cols, "Thank you")

if not dbConnError and conn.is_connected():
    cur = conn.cursor()
    print(clrClear, end="")
    printBanner("Welcome to Cafeteria Management System")
    uname = input(cols + "Enter Username: ")
    pswd = input(cols + "Enter password: ")
    cur.execute("SELECT id, name, passwd FROM staff WHERE userId = '{}'\
                AND status = 'A'".format(uname))
    data = cur.fetchall()
    if data != []:
        if data[0][2] == pswd:
            userData = {"name": data[0][1], "username": uname, "isAdmin":
data[0][1] == "Administrator", "staffId": data[0][0]}
            log('I', 'Logon Success')
            print(cols, clrBold, "\bWelcome,", userData['name'], clrReset)
            mainMenu(cur, userData)
        else:
            log('E', "Invalid password for user: " + uname)
    else:
        log('E', "No such user in database: " + uname)

input("Press enter to continue...")
if not dbConnError:
    conn.commit()
    conn.close()
```

OUTPUT

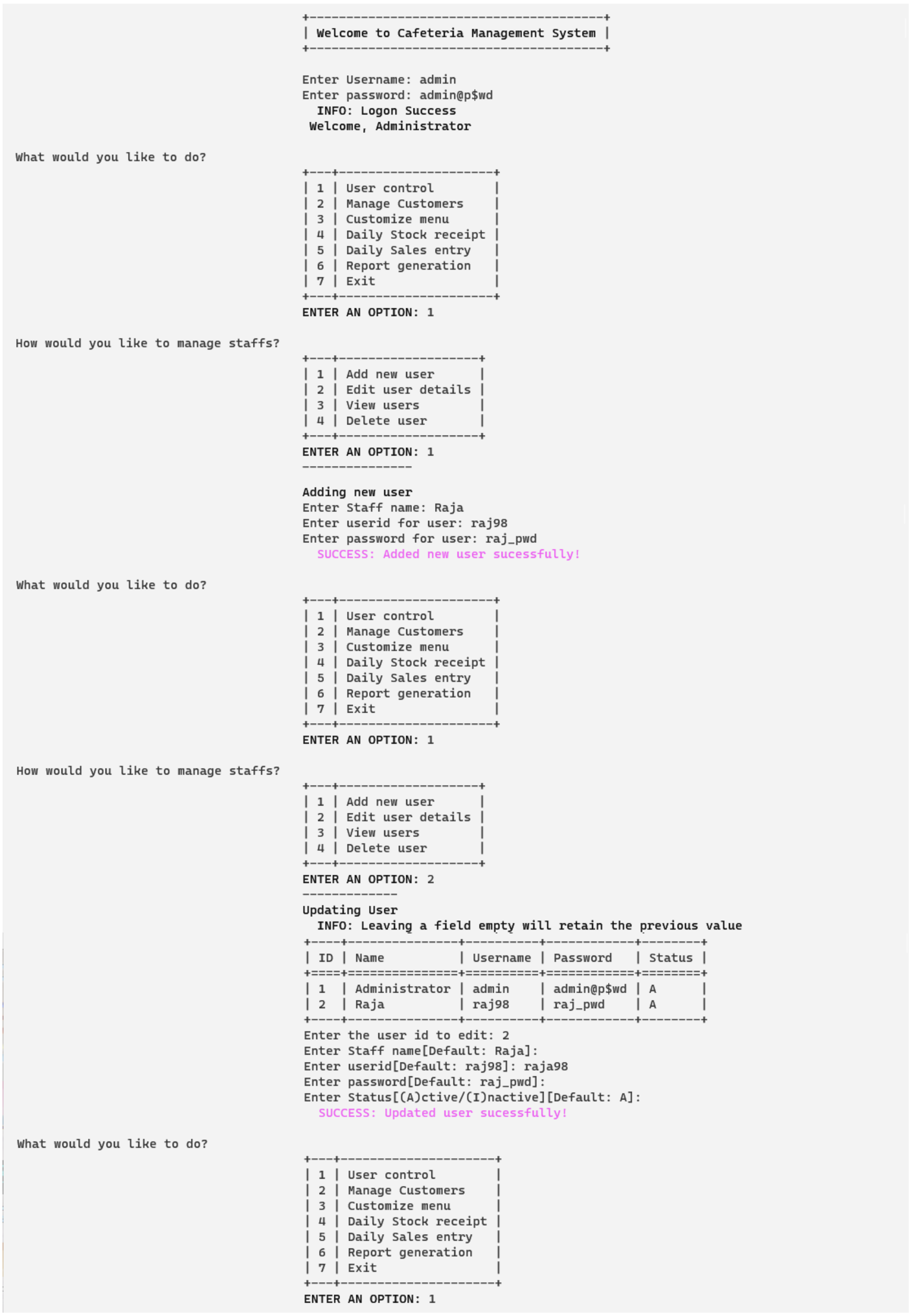
Program Start:



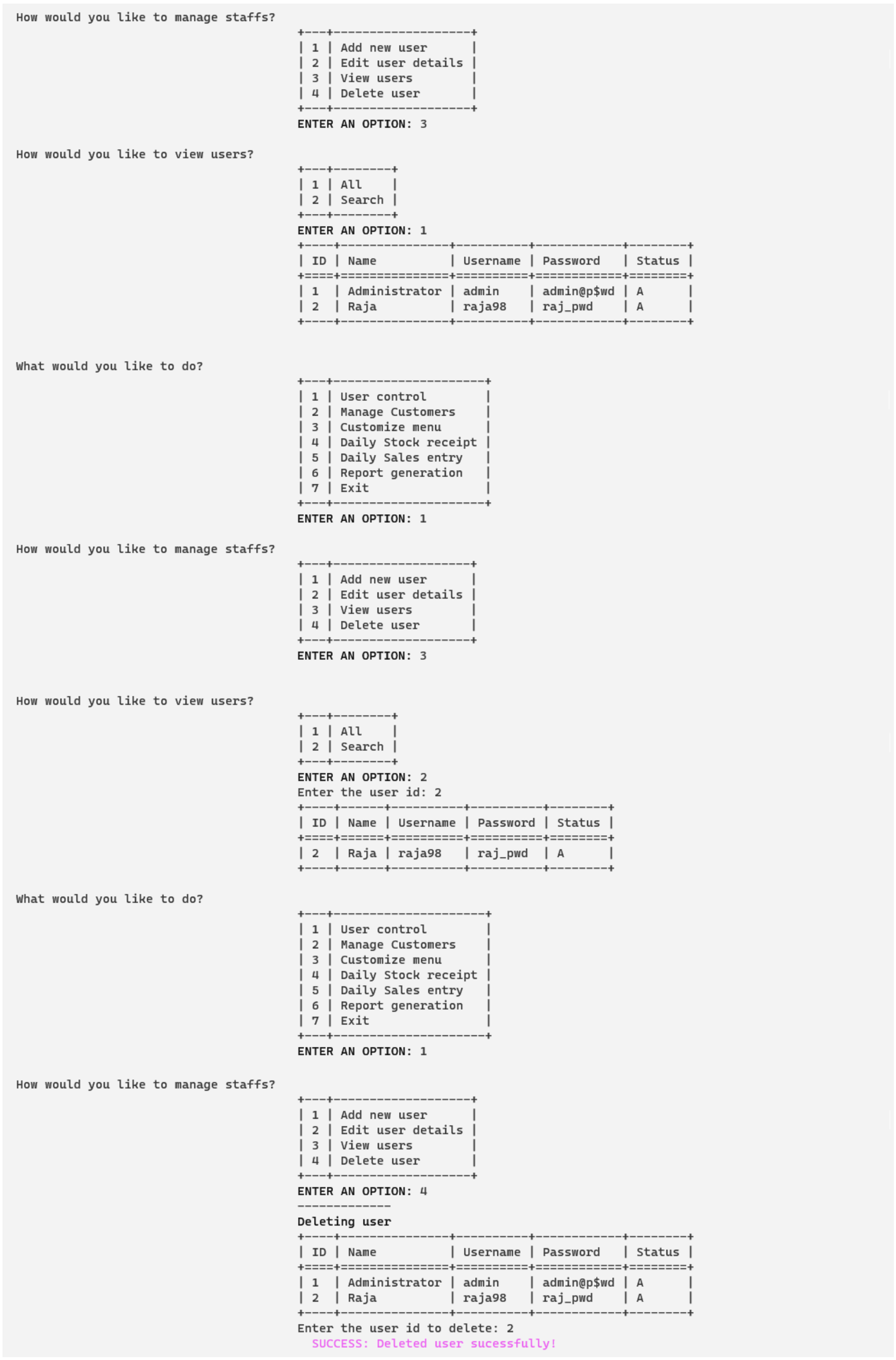
Login Screen:



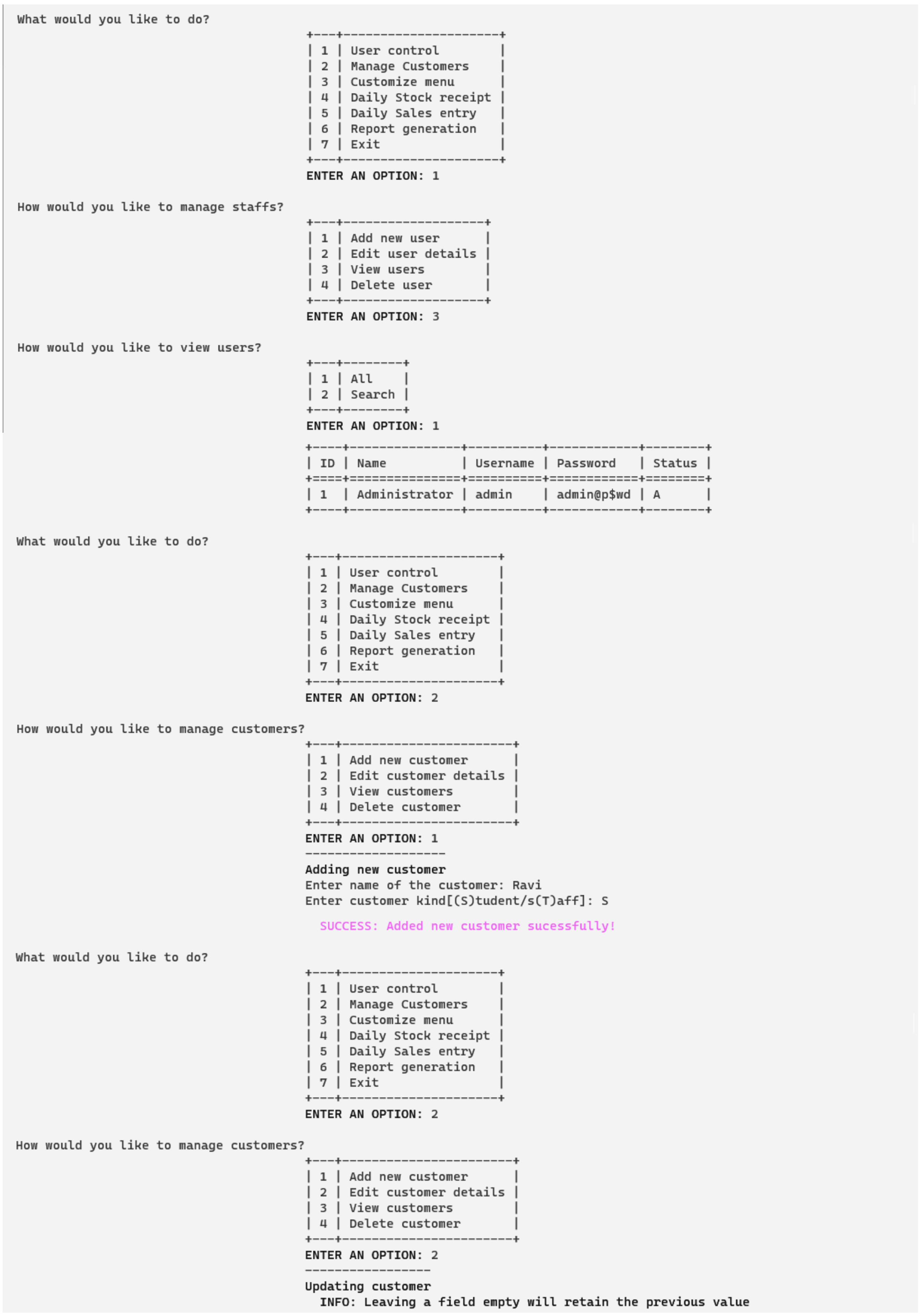
```
+-----------------------------------------+
| Welcome to Cafeteria Management System |
+-----------------------------------------+

Enter Username: 
```



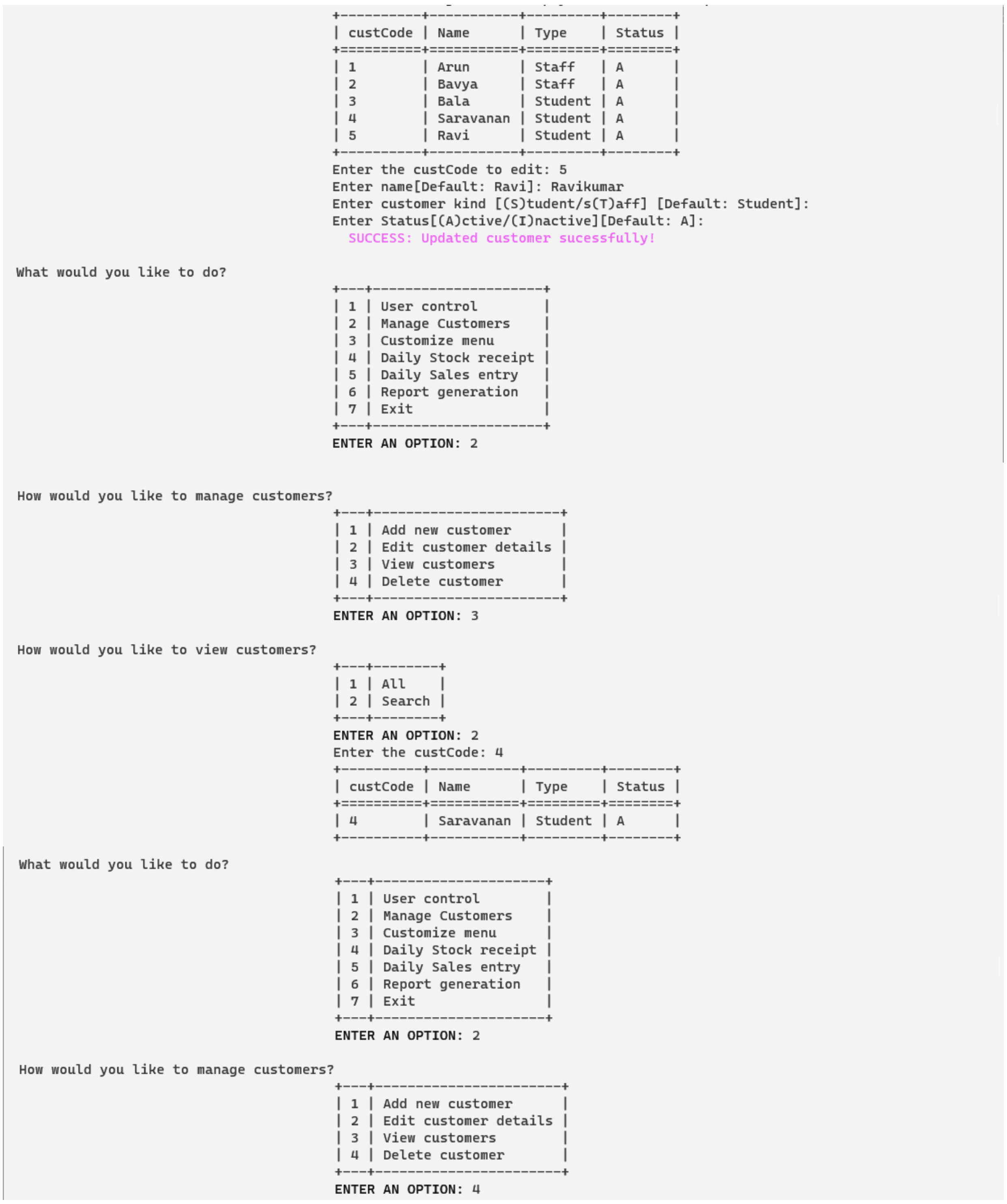
```
                                       +-----------------------------------------+
                                       | Welcome to Cafeteria Management System |
                                       +-----------------------------------------+

                                       Enter Username: admin
                                       Enter password: admin@p$wd
                                         INFO: Logon Success
                                        Welcome, Administrator

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 1

How would you like to manage staffs?
                                       +---+-------------------+
                                       | 1 | Add new user      |
                                       | 2 | Edit user details |
                                       | 3 | View users        |
                                       | 4 | Delete user       |
                                       +---+-------------------+
                                       ENTER AN OPTION: 1
                                       ---------------

                                       Adding new user
                                       Enter Staff name: Raja
                                       Enter userid for user: raj98
                                       Enter password for user: raj_pwd
                                         SUCCESS: Added new user sucessfully!

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 1

How would you like to manage staffs?
                                       +---+-------------------+
                                       | 1 | Add new user      |
                                       | 2 | Edit user details |
                                       | 3 | View users        |
                                       | 4 | Delete user       |
                                       +---+-------------------+
                                       ENTER AN OPTION: 2
                                       -------------
                                       Updating User
                                         INFO: Leaving a field empty will retain the previous value
                                       +----+---------------+----------+------------+--------+
                                       | ID | Name          | Username | Password   | Status |
                                       +====+===============+==========+============+========+
                                       | 1  | Administrator | admin    | admin@p$wd | A      |
                                       | 2  | Raja          | raj98    | raj_pwd    | A      |
                                       +----+---------------+----------+------------+--------+
                                       Enter the user id to edit: 2
                                       Enter Staff name[Default: Raja]:
                                       Enter userid[Default: raj98]: raja98
                                       Enter password[Default: raj_pwd]:
                                       Enter Status[(A)ctive/(I)nactive][Default: A]:
                                         SUCCESS: Updated user sucessfully!

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 1
```

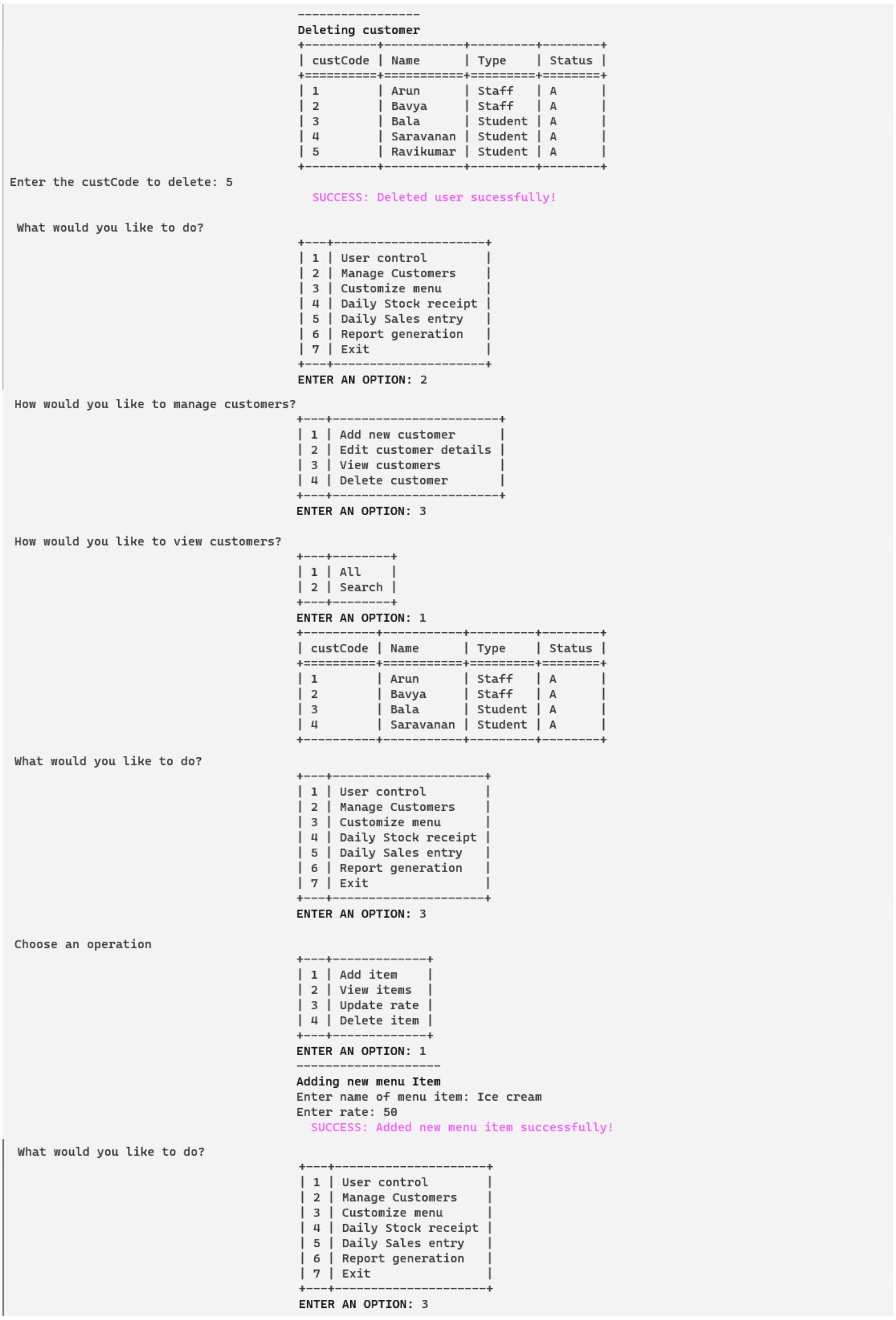


```
How would you like to manage staffs?
                                       +---+--------------------+
                                       | 1 | Add new user       |
                                       | 2 | Edit user details |
                                       | 3 | View users         |
                                       | 4 | Delete user        |
                                       +---+--------------------+
                                       ENTER AN OPTION: 3

How would you like to view users?
                                       +---+--------+
                                       | 1 | All    |
                                       | 2 | Search |
                                       +---+--------+
                                       ENTER AN OPTION: 1
                                       +----+---------------+----------+------------+--------+
                                       | ID | Name          | Username | Password   | Status |
                                       +====+===============+==========+============+========+
                                       | 1  | Administrator | admin    | admin@p$wd | A      |
                                       | 2  | Raja          | raja98   | raj_pwd    | A      |
                                       +----+---------------+----------+------------+--------+


What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 1

How would you like to manage staffs?
                                       +---+--------------------+
                                       | 1 | Add new user       |
                                       | 2 | Edit user details |
                                       | 3 | View users         |
                                       | 4 | Delete user        |
                                       +---+--------------------+
                                       ENTER AN OPTION: 3


How would you like to view users?
                                       +---+--------+
                                       | 1 | All    |
                                       | 2 | Search |
                                       +---+--------+
                                       ENTER AN OPTION: 2
                                       Enter the user id: 2
                                       +----+------+----------+----------+--------+
                                       | ID | Name | Username | Password | Status |
                                       +====+======+==========+==========+========+
                                       | 2  | Raja | raja98   | raj_pwd  | A      |
                                       +----+------+----------+----------+--------+

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 1

How would you like to manage staffs?
                                       +---+--------------------+
                                       | 1 | Add new user       |
                                       | 2 | Edit user details |
                                       | 3 | View users         |
                                       | 4 | Delete user        |
                                       +---+--------------------+
                                       ENTER AN OPTION: 4
                                       -------------
                                       Deleting user
                                       +----+---------------+----------+------------+--------+
                                       | ID | Name          | Username | Password   | Status |
                                       +====+===============+==========+============+========+
                                       | 1  | Administrator | admin    | admin@p$wd | A      |
                                       | 2  | Raja          | raja98   | raj_pwd    | A      |
                                       +----+---------------+----------+------------+--------+
                                       Enter the user id to delete: 2
                                         SUCCESS: Deleted user sucessfully!
```

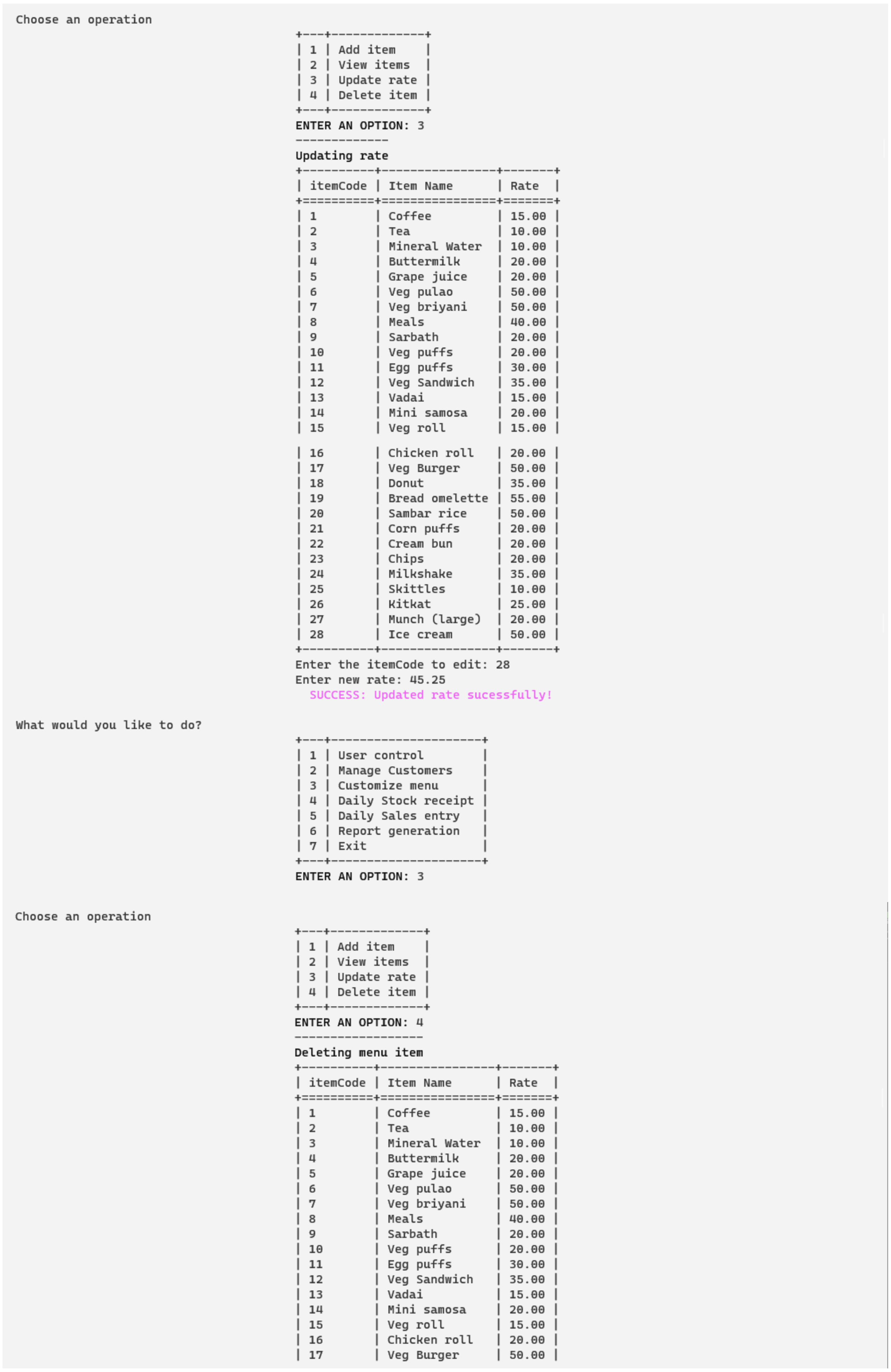


```
What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 1

How would you like to manage staffs?
                                       +---+-------------------+
                                       | 1 | Add new user      |
                                       | 2 | Edit user details |
                                       | 3 | View users        |
                                       | 4 | Delete user       |
                                       +---+-------------------+
                                       ENTER AN OPTION: 3

How would you like to view users?
                                       +---+--------+
                                       | 1 | All    |
                                       | 2 | Search |
                                       +---+--------+
                                       ENTER AN OPTION: 1

                                       +----+---------------+----------+------------+--------+
                                       | ID | Name          | Username | Password   | Status |
                                       +====+===============+==========+============+========+
                                       | 1  | Administrator | admin    | admin@p$wd | A      |
                                       +----+---------------+----------+------------+--------+

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 2

How would you like to manage customers?
                                       +---+-----------------------+
                                       | 1 | Add new customer      |
                                       | 2 | Edit customer details |
                                       | 3 | View customers        |
                                       | 4 | Delete customer       |
                                       +---+-----------------------+
                                       ENTER AN OPTION: 1
                                       -------------------
                                       Adding new customer
                                       Enter name of the customer: Ravi
                                       Enter customer kind[(S)tudent/s(T)aff]: S

                                         SUCCESS: Added new customer sucessfully!

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 2

How would you like to manage customers?
                                       +---+-----------------------+
                                       | 1 | Add new customer      |
                                       | 2 | Edit customer details |
                                       | 3 | View customers        |
                                       | 4 | Delete customer       |
                                       +---+-----------------------+
                                       ENTER AN OPTION: 2
                                       -----------------
                                       Updating customer
                                         INFO: Leaving a field empty will retain the previous value
```

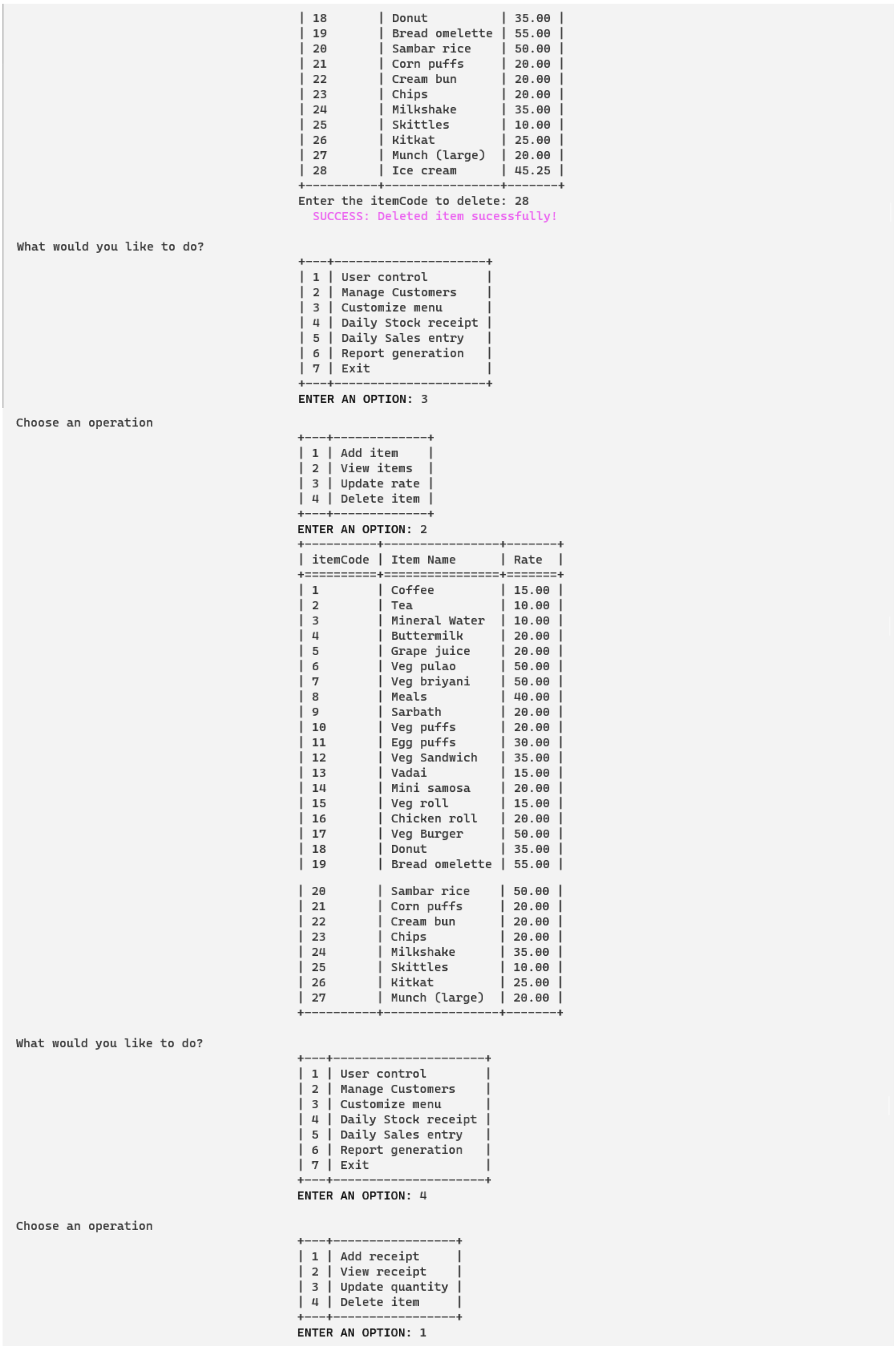

```
                                       +----------+-----------+---------+--------+
                                       | custCode | Name      | Type    | Status |
                                       +==========+===========+=========+========+
                                       | 1        | Arun      | Staff   | A      |
                                       | 2        | Bavya     | Staff   | A      |
                                       | 3        | Bala      | Student | A      |
                                       | 4        | Saravanan | Student | A      |
                                       | 5        | Ravi      | Student | A      |
                                       +----------+-----------+---------+--------+
                                       Enter the custCode to edit: 5
                                       Enter name[Default: Ravi]: Ravikumar
                                       Enter customer kind [(S)tudent/s(T)aff] [Default: Student]:
                                       Enter Status[(A)ctive/(I)nactive][Default: A]:
                                         SUCCESS: Updated customer sucessfully!

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 2


How would you like to manage customers?
                                       +---+-----------------------+
                                       | 1 | Add new customer      |
                                       | 2 | Edit customer details |
                                       | 3 | View customers        |
                                       | 4 | Delete customer       |
                                       +---+-----------------------+
                                       ENTER AN OPTION: 3

How would you like to view customers?
                                       +---+--------+
                                       | 1 | All    |
                                       | 2 | Search |
                                       +---+--------+
                                       ENTER AN OPTION: 2
                                       Enter the custCode: 4
                                       +----------+-----------+---------+--------+
                                       | custCode | Name      | Type    | Status |
                                       +==========+===========+=========+========+
                                       | 4        | Saravanan | Student | A      |
                                       +----------+-----------+---------+--------+
What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 2

How would you like to manage customers?
                                       +---+-----------------------+
                                       | 1 | Add new customer      |
                                       | 2 | Edit customer details |
                                       | 3 | View customers        |
                                       | 4 | Delete customer       |
                                       +---+-----------------------+
                                       ENTER AN OPTION: 4
```



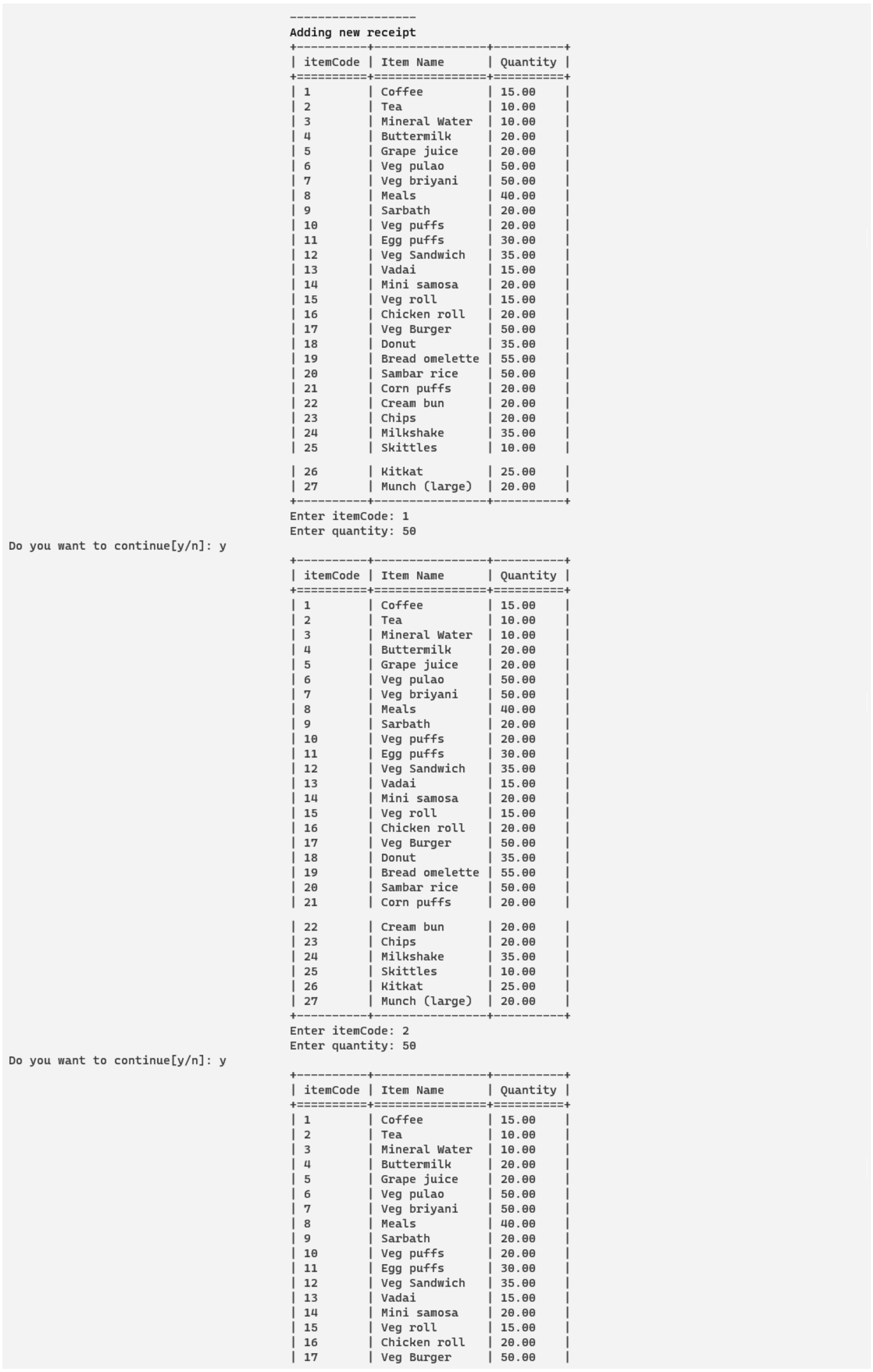
```
                                        -----------------
                                        Deleting customer
                                        +----------+-----------+---------+--------+
                                        | custCode | Name      | Type    | Status |
                                        +==========+===========+=========+========+
                                        | 1        | Arun      | Staff   | A      |
                                        | 2        | Bavya     | Staff   | A      |
                                        | 3        | Bala      | Student | A      |
                                        | 4        | Saravanan | Student | A      |
                                        | 5        | Ravikumar | Student | A      |
                                        +----------+-----------+---------+--------+
Enter the custCode to delete: 5
                                          SUCCESS: Deleted user sucessfully!

 What would you like to do?
                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+
                                        ENTER AN OPTION: 2
 How would you like to manage customers?
                                        +---+-----------------------+
                                        | 1 | Add new customer      |
                                        | 2 | Edit customer details |
                                        | 3 | View customers        |
                                        | 4 | Delete customer       |
                                        +---+-----------------------+
                                        ENTER AN OPTION: 3

 How would you like to view customers?
                                        +---+--------+
                                        | 1 | All    |
                                        | 2 | Search |
                                        +---+--------+
                                        ENTER AN OPTION: 1
                                        +----------+-----------+---------+--------+
                                        | custCode | Name      | Type    | Status |
                                        +==========+===========+=========+========+
                                        | 1        | Arun      | Staff   | A      |
                                        | 2        | Bavya     | Staff   | A      |
                                        | 3        | Bala      | Student | A      |
                                        | 4        | Saravanan | Student | A      |
                                        +----------+-----------+---------+--------+
 What would you like to do?

                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+
                                        ENTER AN OPTION: 3

 Choose an operation

                                        +---+-------------+
                                        | 1 | Add item    |
                                        | 2 | View items  |
                                        | 3 | Update rate |
                                        | 4 | Delete item |
                                        +---+-------------+
                                        ENTER AN OPTION: 1
                                        --------------------
                                        Adding new menu Item
                                        Enter name of menu item: Ice cream
                                        Enter rate: 50
                                          SUCCESS: Added new menu item successfully!
 What would you like to do?
                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+
                                        ENTER AN OPTION: 3
```



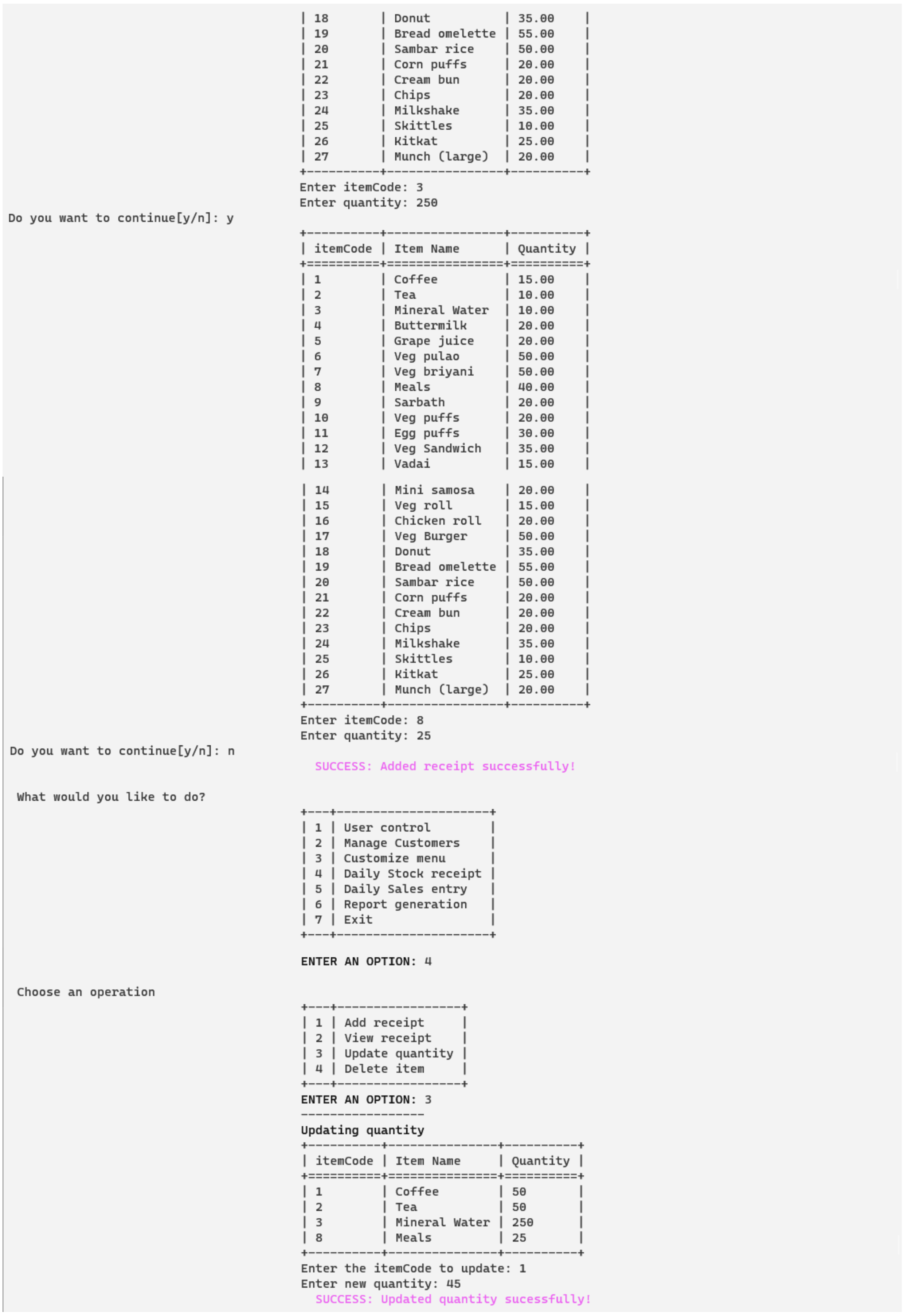
```
Choose an operation
                                        +---+-------------+
                                        | 1 | Add item    |
                                        | 2 | View items  |
                                        | 3 | Update rate |
                                        | 4 | Delete item |
                                        +---+-------------+
                                        ENTER AN OPTION: 3
                                        -------------
                                        Updating rate
                                        +----------+----------------+-------+
                                        | itemCode | Item Name      | Rate  |
                                        +==========+================+=======+
                                        | 1        | Coffee         | 15.00 |
                                        | 2        | Tea            | 10.00 |
                                        | 3        | Mineral Water  | 10.00 |
                                        | 4        | Buttermilk     | 20.00 |
                                        | 5        | Grape juice    | 20.00 |
                                        | 6        | Veg pulao      | 50.00 |
                                        | 7        | Veg briyani    | 50.00 |
                                        | 8        | Meals          | 40.00 |
                                        | 9        | Sarbath        | 20.00 |
                                        | 10       | Veg puffs      | 20.00 |
                                        | 11       | Egg puffs      | 30.00 |
                                        | 12       | Veg Sandwich   | 35.00 |
                                        | 13       | Vadai          | 15.00 |
                                        | 14       | Mini samosa    | 20.00 |
                                        | 15       | Veg roll       | 15.00 |

                                        | 16       | Chicken roll   | 20.00 |
                                        | 17       | Veg Burger     | 50.00 |
                                        | 18       | Donut          | 35.00 |
                                        | 19       | Bread omelette | 55.00 |
                                        | 20       | Sambar rice    | 50.00 |
                                        | 21       | Corn puffs     | 20.00 |
                                        | 22       | Cream bun      | 20.00 |
                                        | 23       | Chips          | 20.00 |
                                        | 24       | Milkshake      | 35.00 |
                                        | 25       | Skittles       | 10.00 |
                                        | 26       | Kitkat         | 25.00 |
                                        | 27       | Munch (large)  | 20.00 |
                                        | 28       | Ice cream      | 50.00 |
                                        +----------+----------------+-------+
                                        Enter the itemCode to edit: 28
                                        Enter new rate: 45.25
                                          SUCCESS: Updated rate sucessfully!

What would you like to do?
                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+
                                        ENTER AN OPTION: 3

Choose an operation
                                        +---+-------------+
                                        | 1 | Add item    |
                                        | 2 | View items  |
                                        | 3 | Update rate |
                                        | 4 | Delete item |
                                        +---+-------------+
                                        ENTER AN OPTION: 4
                                        ------------------
                                        Deleting menu item
                                        +----------+----------------+-------+
                                        | itemCode | Item Name      | Rate  |
                                        +==========+================+=======+
                                        | 1        | Coffee         | 15.00 |
                                        | 2        | Tea            | 10.00 |
                                        | 3        | Mineral Water  | 10.00 |
                                        | 4        | Buttermilk     | 20.00 |
                                        | 5        | Grape juice    | 20.00 |
                                        | 6        | Veg pulao      | 50.00 |
                                        | 7        | Veg briyani    | 50.00 |
                                        | 8        | Meals          | 40.00 |
                                        | 9        | Sarbath        | 20.00 |
                                        | 10       | Veg puffs      | 20.00 |
                                        | 11       | Egg puffs      | 30.00 |
                                        | 12       | Veg Sandwich   | 35.00 |
                                        | 13       | Vadai          | 15.00 |
                                        | 14       | Mini samosa    | 20.00 |
                                        | 15       | Veg roll       | 15.00 |
                                        | 16       | Chicken roll   | 20.00 |
                                        | 17       | Veg Burger     | 50.00 |
```



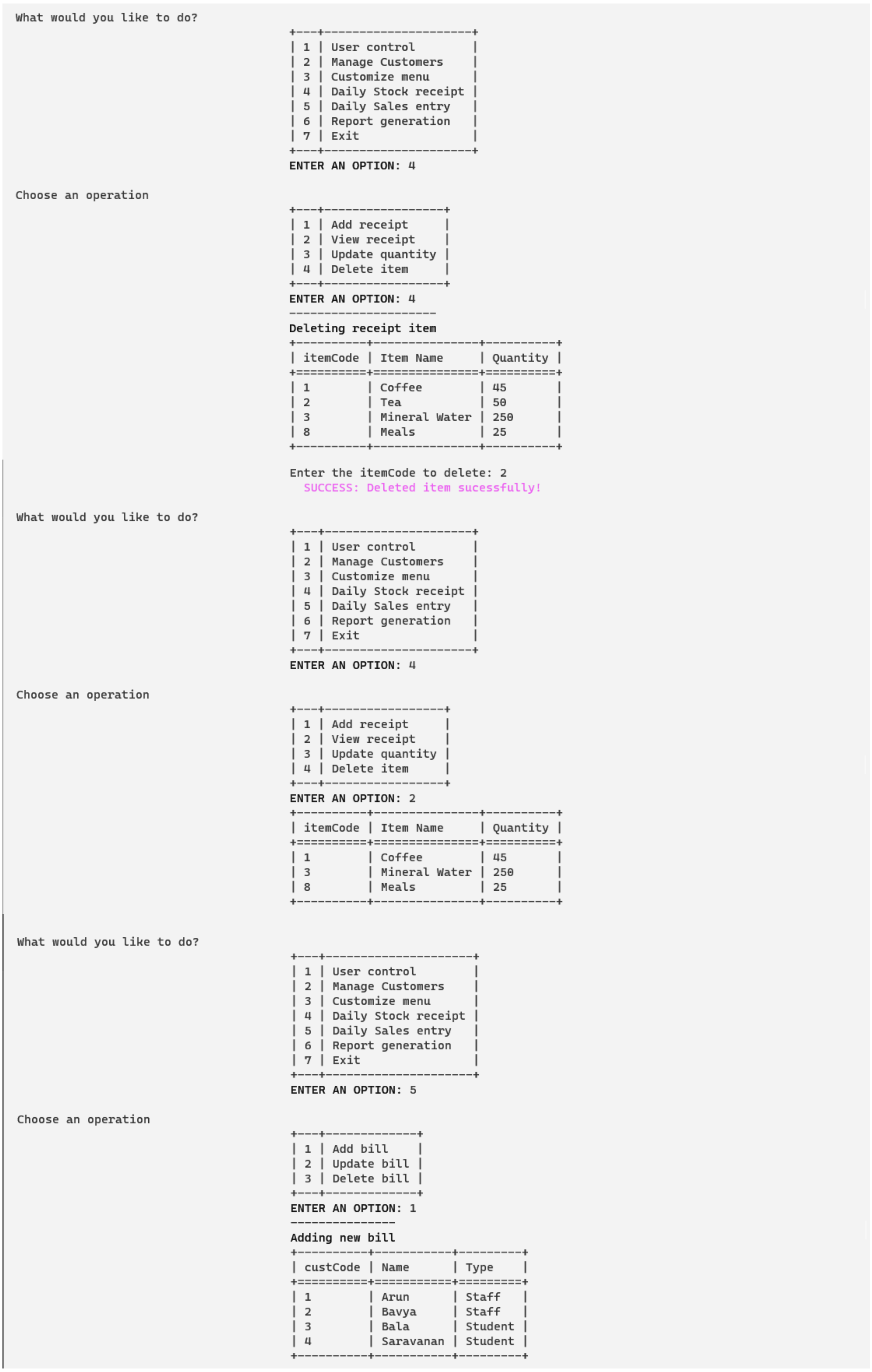
```
                                        | 18       | Donut          | 35.00 |
                                        | 19       | Bread omelette | 55.00 |
                                        | 20       | Sambar rice    | 50.00 |
                                        | 21       | Corn puffs     | 20.00 |
                                        | 22       | Cream bun      | 20.00 |
                                        | 23       | Chips          | 20.00 |
                                        | 24       | Milkshake      | 35.00 |
                                        | 25       | Skittles       | 10.00 |
                                        | 26       | Kitkat         | 25.00 |
                                        | 27       | Munch (large)  | 20.00 |
                                        | 28       | Ice cream      | 45.25 |
                                        +----------+----------------+-------+
                                        Enter the itemCode to delete: 28
                                          SUCCESS: Deleted item sucessfully!

What would you like to do?

                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+
                                        ENTER AN OPTION: 3

Choose an operation

                                        +---+-------------+
                                        | 1 | Add item    |
                                        | 2 | View items  |
                                        | 3 | Update rate |
                                        | 4 | Delete item |
                                        +---+-------------+
                                        ENTER AN OPTION: 2
                                        +----------+----------------+-------+
                                        | itemCode | Item Name      | Rate  |
                                        +==========+================+=======+
                                        | 1        | Coffee         | 15.00 |
                                        | 2        | Tea            | 10.00 |
                                        | 3        | Mineral Water  | 10.00 |
                                        | 4        | Buttermilk     | 20.00 |
                                        | 5        | Grape juice    | 20.00 |
                                        | 6        | Veg pulao      | 50.00 |
                                        | 7        | Veg briyani    | 50.00 |
                                        | 8        | Meals          | 40.00 |
                                        | 9        | Sarbath        | 20.00 |
                                        | 10       | Veg puffs      | 20.00 |
                                        | 11       | Egg puffs      | 30.00 |
                                        | 12       | Veg Sandwich   | 35.00 |
                                        | 13       | Vadai          | 15.00 |
                                        | 14       | Mini samosa    | 20.00 |
                                        | 15       | Veg roll       | 15.00 |
                                        | 16       | Chicken roll   | 20.00 |
                                        | 17       | Veg Burger     | 50.00 |
                                        | 18       | Donut          | 35.00 |
                                        | 19       | Bread omelette | 55.00 |

                                        | 20       | Sambar rice    | 50.00 |
                                        | 21       | Corn puffs     | 20.00 |
                                        | 22       | Cream bun      | 20.00 |
                                        | 23       | Chips          | 20.00 |
                                        | 24       | Milkshake      | 35.00 |
                                        | 25       | Skittles       | 10.00 |
                                        | 26       | Kitkat         | 25.00 |
                                        | 27       | Munch (large)  | 20.00 |
                                        +----------+----------------+-------+

What would you like to do?

                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+
                                        ENTER AN OPTION: 4

Choose an operation

                                        +---+-----------------+
                                        | 1 | Add receipt     |
                                        | 2 | View receipt    |
                                        | 3 | Update quantity |
                                        | 4 | Delete item     |
                                        +---+-----------------+
                                        ENTER AN OPTION: 1
```



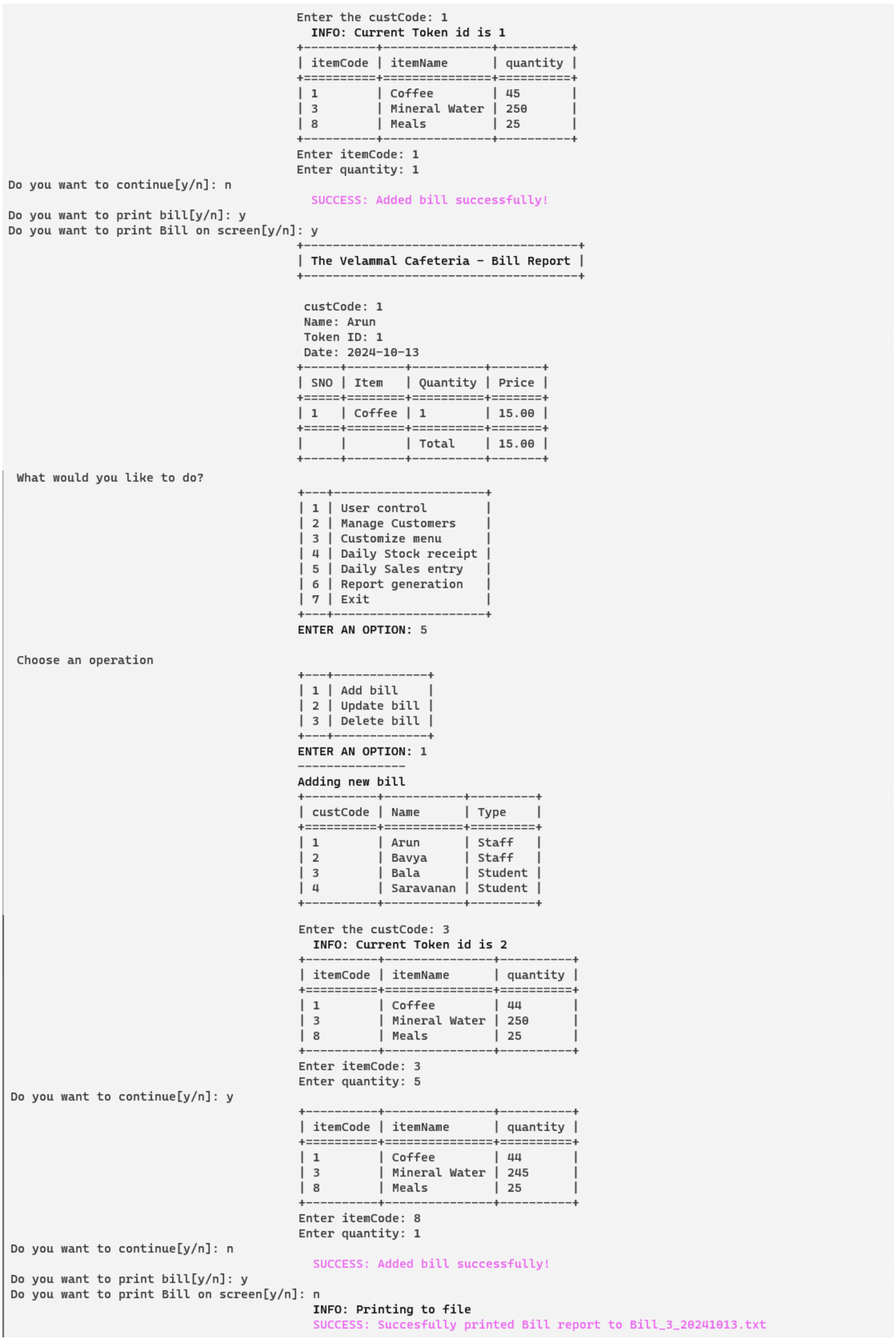
```
                                        ------------------
                                        Adding new receipt
                                        +----------+----------------+----------+
                                        | itemCode | Item Name      | Quantity |
                                        +==========+================+==========+
                                        | 1        | Coffee         | 15.00    |
                                        | 2        | Tea            | 10.00    |
                                        | 3        | Mineral Water  | 10.00    |
                                        | 4        | Buttermilk     | 20.00    |
                                        | 5        | Grape juice    | 20.00    |
                                        | 6        | Veg pulao      | 50.00    |
                                        | 7        | Veg briyani    | 50.00    |
                                        | 8        | Meals          | 40.00    |
                                        | 9        | Sarbath        | 20.00    |
                                        | 10       | Veg puffs      | 20.00    |
                                        | 11       | Egg puffs      | 30.00    |
                                        | 12       | Veg Sandwich   | 35.00    |
                                        | 13       | Vadai          | 15.00    |
                                        | 14       | Mini samosa    | 20.00    |
                                        | 15       | Veg roll       | 15.00    |
                                        | 16       | Chicken roll   | 20.00    |
                                        | 17       | Veg Burger     | 50.00    |
                                        | 18       | Donut          | 35.00    |
                                        | 19       | Bread omelette | 55.00    |
                                        | 20       | Sambar rice    | 50.00    |
                                        | 21       | Corn puffs     | 20.00    |
                                        | 22       | Cream bun      | 20.00    |
                                        | 23       | Chips          | 20.00    |
                                        | 24       | Milkshake      | 35.00    |
                                        | 25       | Skittles       | 10.00    |

                                        | 26       | Kitkat         | 25.00    |
                                        | 27       | Munch (large)  | 20.00    |
                                        +----------+----------------+----------+
                                        Enter itemCode: 1
                                        Enter quantity: 50
Do you want to continue[y/n]: y
                                        +----------+----------------+----------+
                                        | itemCode | Item Name      | Quantity |
                                        +==========+================+==========+
                                        | 1        | Coffee         | 15.00    |
                                        | 2        | Tea            | 10.00    |
                                        | 3        | Mineral Water  | 10.00    |
                                        | 4        | Buttermilk     | 20.00    |
                                        | 5        | Grape juice    | 20.00    |
                                        | 6        | Veg pulao      | 50.00    |
                                        | 7        | Veg briyani    | 50.00    |
                                        | 8        | Meals          | 40.00    |
                                        | 9        | Sarbath        | 20.00    |
                                        | 10       | Veg puffs      | 20.00    |
                                        | 11       | Egg puffs      | 30.00    |
                                        | 12       | Veg Sandwich   | 35.00    |
                                        | 13       | Vadai          | 15.00    |
                                        | 14       | Mini samosa    | 20.00    |
                                        | 15       | Veg roll       | 15.00    |
                                        | 16       | Chicken roll   | 20.00    |
                                        | 17       | Veg Burger     | 50.00    |
                                        | 18       | Donut          | 35.00    |
                                        | 19       | Bread omelette | 55.00    |
                                        | 20       | Sambar rice    | 50.00    |
                                        | 21       | Corn puffs     | 20.00    |

                                        | 22       | Cream bun      | 20.00    |
                                        | 23       | Chips          | 20.00    |
                                        | 24       | Milkshake      | 35.00    |
                                        | 25       | Skittles       | 10.00    |
                                        | 26       | Kitkat         | 25.00    |
                                        | 27       | Munch (large)  | 20.00    |
                                        +----------+----------------+----------+
                                        Enter itemCode: 2
                                        Enter quantity: 50
Do you want to continue[y/n]: y
                                        +----------+----------------+----------+
                                        | itemCode | Item Name      | Quantity |
                                        +==========+================+==========+
                                        | 1        | Coffee         | 15.00    |
                                        | 2        | Tea            | 10.00    |
                                        | 3        | Mineral Water  | 10.00    |
                                        | 4        | Buttermilk     | 20.00    |
                                        | 5        | Grape juice    | 20.00    |
                                        | 6        | Veg pulao      | 50.00    |
                                        | 7        | Veg briyani    | 50.00    |
                                        | 8        | Meals          | 40.00    |
                                        | 9        | Sarbath        | 20.00    |
                                        | 10       | Veg puffs      | 20.00    |
                                        | 11       | Egg puffs      | 30.00    |
                                        | 12       | Veg Sandwich   | 35.00    |
                                        | 13       | Vadai          | 15.00    |
                                        | 14       | Mini samosa    | 20.00    |
                                        | 15       | Veg roll       | 15.00    |
                                        | 16       | Chicken roll   | 20.00    |
                                        | 17       | Veg Burger     | 50.00    |
```



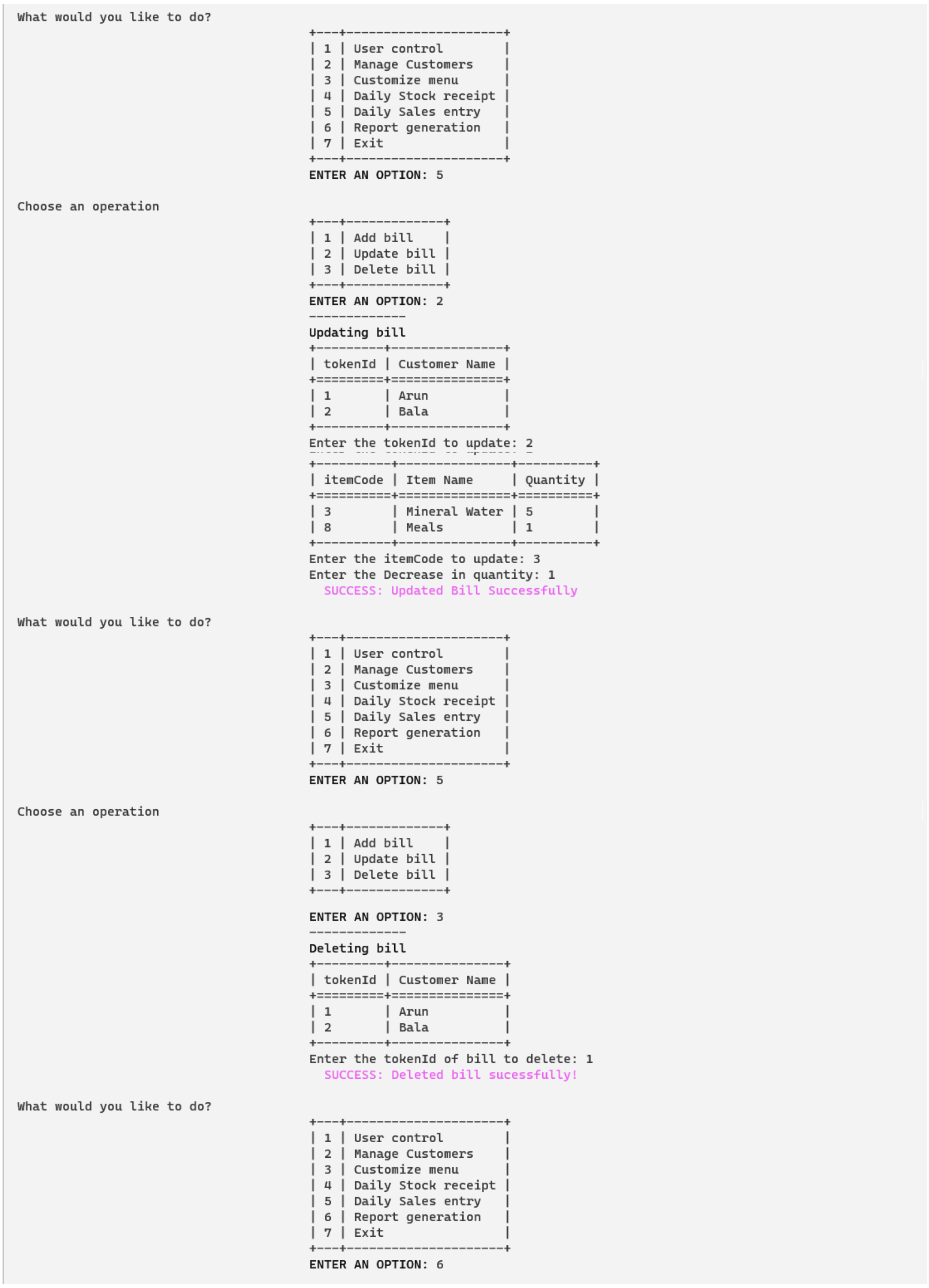
```
                                        | 18       | Donut          | 35.00    |
                                        | 19       | Bread omelette | 55.00    |
                                        | 20       | Sambar rice    | 50.00    |
                                        | 21       | Corn puffs     | 20.00    |
                                        | 22       | Cream bun      | 20.00    |
                                        | 23       | Chips          | 20.00    |
                                        | 24       | Milkshake      | 35.00    |
                                        | 25       | Skittles       | 10.00    |
                                        | 26       | Kitkat         | 25.00    |
                                        | 27       | Munch (large)  | 20.00    |
                                        +----------+----------------+----------+
                                        Enter itemCode: 3
                                        Enter quantity: 250
Do you want to continue[y/n]: y
                                        +----------+----------------+----------+
                                        | itemCode | Item Name      | Quantity |
                                        +==========+================+==========+
                                        | 1        | Coffee         | 15.00    |
                                        | 2        | Tea            | 10.00    |
                                        | 3        | Mineral Water  | 10.00    |
                                        | 4        | Buttermilk     | 20.00    |
                                        | 5        | Grape juice    | 20.00    |
                                        | 6        | Veg pulao      | 50.00    |
                                        | 7        | Veg briyani    | 50.00    |
                                        | 8        | Meals          | 40.00    |
                                        | 9        | Sarbath        | 20.00    |
                                        | 10       | Veg puffs      | 20.00    |
                                        | 11       | Egg puffs      | 30.00    |
                                        | 12       | Veg Sandwich   | 35.00    |
                                        | 13       | Vadai          | 15.00    |
                                        | 14       | Mini samosa    | 20.00    |
                                        | 15       | Veg roll       | 15.00    |
                                        | 16       | Chicken roll   | 20.00    |
                                        | 17       | Veg Burger     | 50.00    |
                                        | 18       | Donut          | 35.00    |
                                        | 19       | Bread omelette | 55.00    |
                                        | 20       | Sambar rice    | 50.00    |
                                        | 21       | Corn puffs     | 20.00    |
                                        | 22       | Cream bun      | 20.00    |
                                        | 23       | Chips          | 20.00    |
                                        | 24       | Milkshake      | 35.00    |
                                        | 25       | Skittles       | 10.00    |
                                        | 26       | Kitkat         | 25.00    |
                                        | 27       | Munch (large)  | 20.00    |
                                        +----------+----------------+----------+
                                        Enter itemCode: 8
                                        Enter quantity: 25
Do you want to continue[y/n]: n
                                          SUCCESS: Added receipt successfully!

 What would you like to do?
                                        +---+---------------------+
                                        | 1 | User control        |
                                        | 2 | Manage Customers    |
                                        | 3 | Customize menu      |
                                        | 4 | Daily Stock receipt |
                                        | 5 | Daily Sales entry   |
                                        | 6 | Report generation   |
                                        | 7 | Exit                |
                                        +---+---------------------+

                                        ENTER AN OPTION: 4

 Choose an operation

                                        +---+-----------------+
                                        | 1 | Add receipt     |
                                        | 2 | View receipt    |
                                        | 3 | Update quantity |
                                        | 4 | Delete item     |
                                        +---+-----------------+
                                        ENTER AN OPTION: 3
                                        -----------------
                                        Updating quantity
                                        +----------+---------------+----------+
                                        | itemCode | Item Name     | Quantity |
                                        +==========+===============+==========+
                                        | 1        | Coffee        | 50       |
                                        | 2        | Tea           | 50       |
                                        | 3        | Mineral Water | 250      |
                                        | 8        | Meals         | 25       |
                                        +----------+---------------+----------+
                                        Enter the itemCode to update: 1
                                        Enter new quantity: 45
                                          SUCCESS: Updated quantity sucessfully!
```



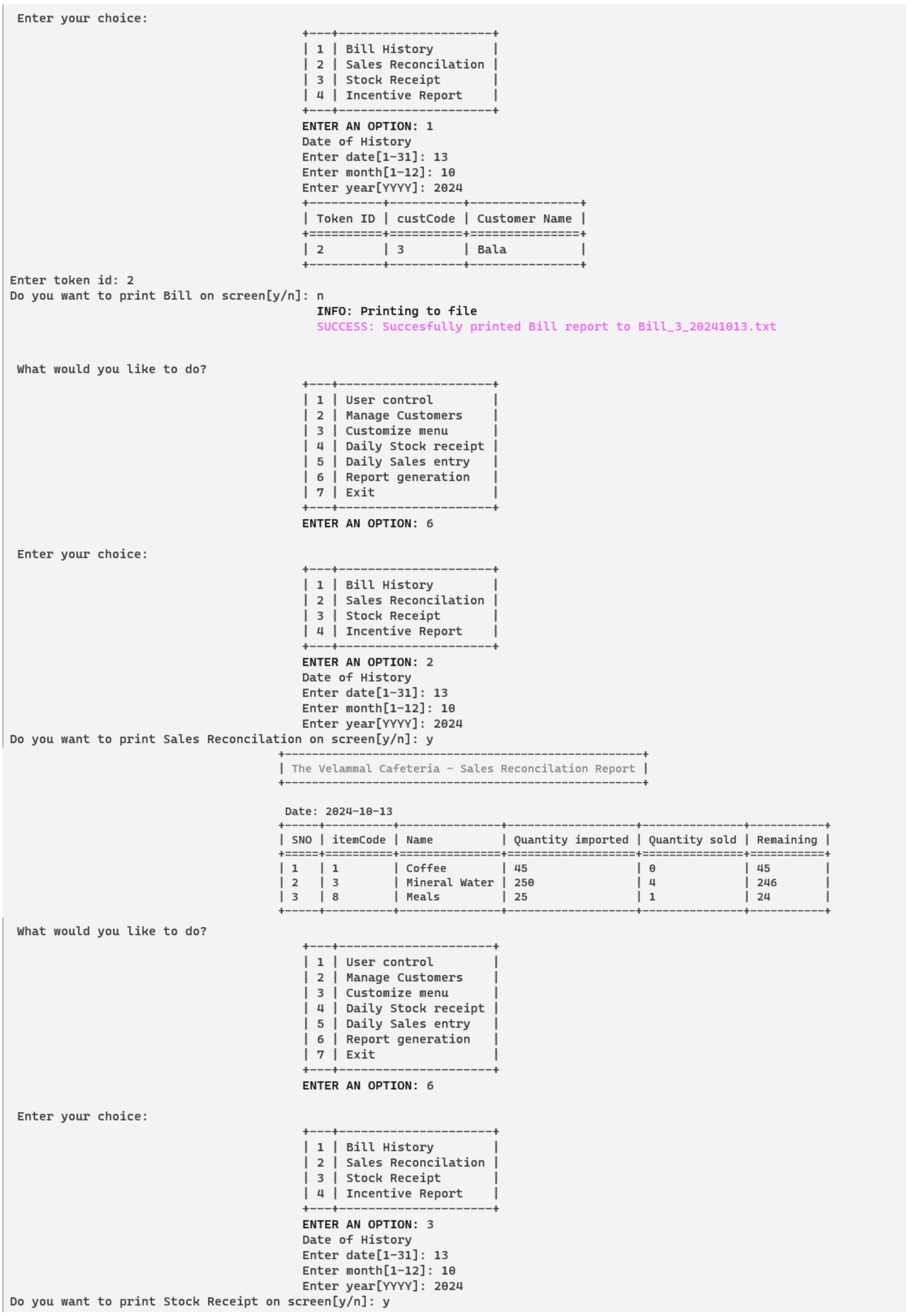
```
What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 4

Choose an operation
                                       +---+-----------------+
                                       | 1 | Add receipt     |
                                       | 2 | View receipt    |
                                       | 3 | Update quantity |
                                       | 4 | Delete item     |
                                       +---+-----------------+
                                       ENTER AN OPTION: 4
                                       ---------------------
                                       Deleting receipt item
                                       +----------+---------------+----------+
                                       | itemCode | Item Name     | Quantity |
                                       +==========+===============+==========+
                                       | 1        | Coffee        | 45       |
                                       | 2        | Tea           | 50       |
                                       | 3        | Mineral Water | 250      |
                                       | 8        | Meals         | 25       |
                                       +----------+---------------+----------+

                                       Enter the itemCode to delete: 2
                                         SUCCESS: Deleted item sucessfully!

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 4

Choose an operation
                                       +---+-----------------+
                                       | 1 | Add receipt     |
                                       | 2 | View receipt    |
                                       | 3 | Update quantity |
                                       | 4 | Delete item     |
                                       +---+-----------------+
                                       ENTER AN OPTION: 2
                                       +----------+---------------+----------+
                                       | itemCode | Item Name     | Quantity |
                                       +==========+===============+==========+
                                       | 1        | Coffee        | 45       |
                                       | 3        | Mineral Water | 250      |
                                       | 8        | Meals         | 25       |
                                       +----------+---------------+----------+


What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 5

Choose an operation
                                       +---+-------------+
                                       | 1 | Add bill    |
                                       | 2 | Update bill |
                                       | 3 | Delete bill |
                                       +---+-------------+
                                       ENTER AN OPTION: 1
                                       ---------------
                                       Adding new bill
                                       +----------+-----------+---------+
                                       | custCode | Name      | Type    |
                                       +==========+===========+=========+
                                       | 1        | Arun      | Staff   |
                                       | 2        | Bavya     | Staff   |
                                       | 3        | Bala      | Student |
                                       | 4        | Saravanan | Student |
                                       +----------+-----------+---------+
```



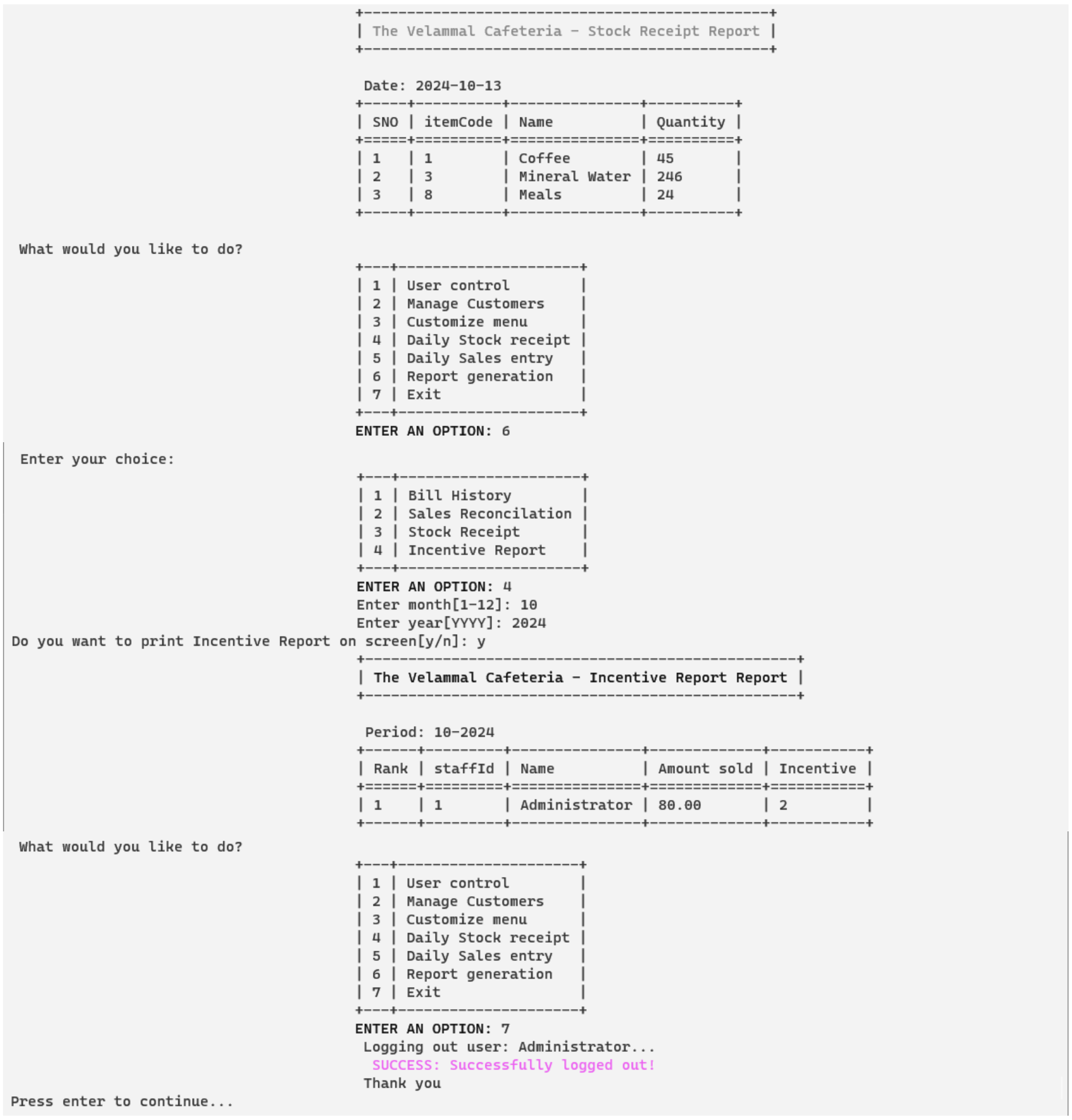
```
                                         Enter the custCode: 1
                                           INFO: Current Token id is 1
                                         +----------+---------------+----------+
                                         | itemCode | itemName      | quantity |
                                         +==========+===============+==========+
                                         | 1        | Coffee        | 45       |
                                         | 3        | Mineral Water | 250      |
                                         | 8        | Meals         | 25       |
                                         +----------+---------------+----------+
                                         Enter itemCode: 1
                                         Enter quantity: 1
Do you want to continue[y/n]: n
                                           SUCCESS: Added bill successfully!

Do you want to print bill[y/n]: y
Do you want to print Bill on screen[y/n]: y
                                         +---------------------------------------+
                                         | The Velammal Cafeteria - Bill Report |
                                         +---------------------------------------+

                                          custCode: 1
                                          Name: Arun
                                          Token ID: 1
                                          Date: 2024-10-13
                                         +-----+--------+----------+-------+
                                         | SNO | Item   | Quantity | Price |
                                         +=====+========+==========+=======+
                                         | 1   | Coffee | 1        | 15.00 |
                                         +=====+========+==========+=======+
                                         |     |        | Total    | 15.00 |
                                         +-----+--------+----------+-------+
 What would you like to do?

                                         +---+---------------------+
                                         | 1 | User control        |
                                         | 2 | Manage Customers    |
                                         | 3 | Customize menu      |
                                         | 4 | Daily Stock receipt |
                                         | 5 | Daily Sales entry   |
                                         | 6 | Report generation   |
                                         | 7 | Exit                |
                                         +---+---------------------+
                                         ENTER AN OPTION: 5

 Choose an operation

                                         +---+-------------+
                                         | 1 | Add bill    |
                                         | 2 | Update bill |
                                         | 3 | Delete bill |
                                         +---+-------------+
                                         ENTER AN OPTION: 1
                                         ---------------
                                         Adding new bill
                                         +----------+-----------+---------+
                                         | custCode | Name      | Type    |
                                         +==========+===========+=========+
                                         | 1        | Arun      | Staff   |
                                         | 2        | Bavya     | Staff   |
                                         | 3        | Bala      | Student |
                                         | 4        | Saravanan | Student |
                                         +----------+-----------+---------+

                                         Enter the custCode: 3
                                           INFO: Current Token id is 2
                                         +----------+---------------+----------+
                                         | itemCode | itemName      | quantity |
                                         +==========+===============+==========+
                                         | 1        | Coffee        | 44       |
                                         | 3        | Mineral Water | 250      |
                                         | 8        | Meals         | 25       |
                                         +----------+---------------+----------+
                                         Enter itemCode: 3
                                         Enter quantity: 5
Do you want to continue[y/n]: y

                                         +----------+---------------+----------+
                                         | itemCode | itemName      | quantity |
                                         +==========+===============+==========+
                                         | 1        | Coffee        | 44       |
                                         | 3        | Mineral Water | 245      |
                                         | 8        | Meals         | 25       |
                                         +----------+---------------+----------+
                                         Enter itemCode: 8
                                         Enter quantity: 1
Do you want to continue[y/n]: n
                                           SUCCESS: Added bill successfully!

Do you want to print bill[y/n]: y
Do you want to print Bill on screen[y/n]: n
                                           INFO: Printing to file
                                           SUCCESS: Succesfully printed Bill report to Bill_3_20241013.txt
```



```
What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 5

Choose an operation
                                       +---+-------------+
                                       | 1 | Add bill    |
                                       | 2 | Update bill |
                                       | 3 | Delete bill |
                                       +---+-------------+
                                       ENTER AN OPTION: 2
                                       -------------
                                       Updating bill
                                       +---------+---------------+
                                       | tokenId | Customer Name |
                                       +=========+===============+
                                       | 1       | Arun          |
                                       | 2       | Bala          |
                                       +---------+---------------+
                                       Enter the tokenId to update: 2
                                       +----------+---------------+----------+
                                       | itemCode | Item Name     | Quantity |
                                       +==========+===============+==========+
                                       | 3        | Mineral Water | 5        |
                                       | 8        | Meals         | 1        |
                                       +----------+---------------+----------+
                                       Enter the itemCode to update: 3
                                       Enter the Decrease in quantity: 1
                                         SUCCESS: Updated Bill Successfully

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 5

Choose an operation
                                       +---+-------------+
                                       | 1 | Add bill    |
                                       | 2 | Update bill |
                                       | 3 | Delete bill |
                                       +---+-------------+

                                       ENTER AN OPTION: 3
                                       -------------
                                       Deleting bill
                                       +---------+---------------+
                                       | tokenId | Customer Name |
                                       +=========+===============+
                                       | 1       | Arun          |
                                       | 2       | Bala          |
                                       +---------+---------------+
                                       Enter the tokenId of bill to delete: 1
                                         SUCCESS: Deleted bill sucessfully!

What would you like to do?
                                       +---+---------------------+
                                       | 1 | User control        |
                                       | 2 | Manage Customers    |
                                       | 3 | Customize menu      |
                                       | 4 | Daily Stock receipt |
                                       | 5 | Daily Sales entry   |
                                       | 6 | Report generation   |
                                       | 7 | Exit                |
                                       +---+---------------------+
                                       ENTER AN OPTION: 6
```

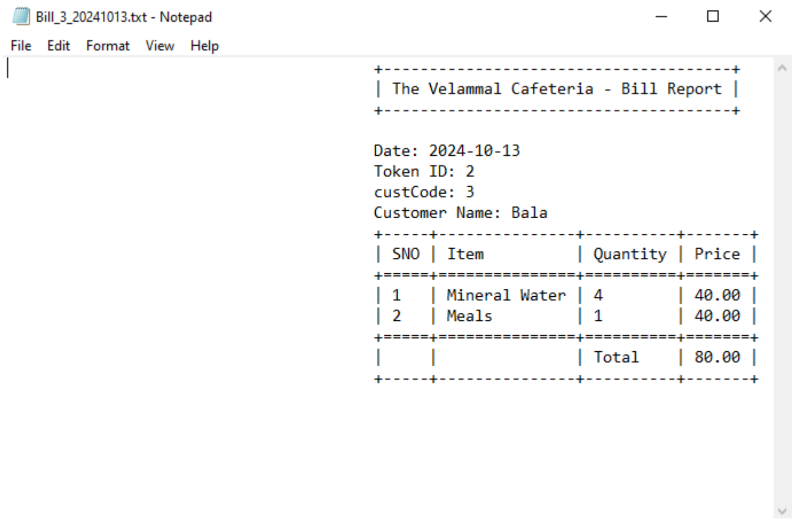


```
 Enter your choice:
                                         +---+---------------------+
                                         | 1 | Bill History        |
                                         | 2 | Sales Reconcilation |
                                         | 3 | Stock Receipt       |
                                         | 4 | Incentive Report    |
                                         +---+---------------------+
                                         ENTER AN OPTION: 1
                                         Date of History
                                         Enter date[1-31]: 13
                                         Enter month[1-12]: 10
                                         Enter year[YYYY]: 2024
                                         +----------+----------+---------------+
                                         | Token ID | custCode | Customer Name |
                                         +==========+==========+===============+
                                         | 2        | 3        | Bala          |
                                         +----------+----------+---------------+
Enter token id: 2
Do you want to print Bill on screen[y/n]: n
                                           INFO: Printing to file
                                           SUCCESS: Succesfully printed Bill report to Bill_3_20241013.txt


 What would you like to do?
                                         +---+---------------------+
                                         | 1 | User control        |
                                         | 2 | Manage Customers    |
                                         | 3 | Customize menu      |
                                         | 4 | Daily Stock receipt |
                                         | 5 | Daily Sales entry   |
                                         | 6 | Report generation   |
                                         | 7 | Exit                |
                                         +---+---------------------+
                                         ENTER AN OPTION: 6

 Enter your choice:
                                         +---+---------------------+
                                         | 1 | Bill History        |
                                         | 2 | Sales Reconcilation |
                                         | 3 | Stock Receipt       |
                                         | 4 | Incentive Report    |
                                         +---+---------------------+
                                         ENTER AN OPTION: 2
                                         Date of History
                                         Enter date[1-31]: 13
                                         Enter month[1-12]: 10
                                         Enter year[YYYY]: 2024
Do you want to print Sales Reconcilation on screen[y/n]: y
                                      +---------------------------------------------------+
                                      | The Velammal Cafeteria - Sales Reconcilation Report |
                                      +---------------------------------------------------+

                                       Date: 2024-10-13
                                      +-----+----------+--------------+-------------------+--------------+-----------+
                                      | SNO | itemCode | Name         | Quantity imported | Quantity sold | Remaining |
                                      +=====+==========+==============+===================+==============+===========+
                                      | 1   | 1        | Coffee       | 45                | 0            | 45        |
                                      | 2   | 3        | Mineral Water | 250              | 4            | 246       |
                                      | 3   | 8        | Meals        | 25                | 1            | 24        |
                                      +-----+----------+--------------+-------------------+--------------+-----------+
 What would you like to do?
                                         +---+---------------------+
                                         | 1 | User control        |
                                         | 2 | Manage Customers    |
                                         | 3 | Customize menu      |
                                         | 4 | Daily Stock receipt |
                                         | 5 | Daily Sales entry   |
                                         | 6 | Report generation   |
                                         | 7 | Exit                |
                                         +---+---------------------+
                                         ENTER AN OPTION: 6

 Enter your choice:
                                         +---+---------------------+
                                         | 1 | Bill History        |
                                         | 2 | Sales Reconcilation |
                                         | 3 | Stock Receipt       |
                                         | 4 | Incentive Report    |
                                         +---+---------------------+
                                         ENTER AN OPTION: 3
                                         Date of History
                                         Enter date[1-31]: 13
                                         Enter month[1-12]: 10
                                         Enter year[YYYY]: 2024
Do you want to print Stock Receipt on screen[y/n]: y
```



```
                                            +------------------------------------------------+
                                            | The Velammal Cafeteria - Stock Receipt Report |
                                            +------------------------------------------------+

                                             Date: 2024-10-13
                                            +-----+----------+---------------+----------+
                                            | SNO | itemCode | Name          | Quantity |
                                            +=====+==========+===============+==========+
                                            | 1   | 1        | Coffee        | 45       |
                                            | 2   | 3        | Mineral Water | 246      |
                                            | 3   | 8        | Meals         | 24       |
                                            +-----+----------+---------------+----------+

 What would you like to do?

                                            +---+--------------------+
                                            | 1 | User control       |
                                            | 2 | Manage Customers   |
                                            | 3 | Customize menu     |
                                            | 4 | Daily Stock receipt |
                                            | 5 | Daily Sales entry  |
                                            | 6 | Report generation  |
                                            | 7 | Exit               |
                                            +---+--------------------+
                                            ENTER AN OPTION: 6
 Enter your choice:

                                            +---+--------------------+
                                            | 1 | Bill History       |
                                            | 2 | Sales Reconcilation |
                                            | 3 | Stock Receipt      |
                                            | 4 | Incentive Report   |
                                            +---+--------------------+
                                            ENTER AN OPTION: 4
                                            Enter month[1-12]: 10
                                            Enter year[YYYY]: 2024
Do you want to print Incentive Report on screen[y/n]: y
                                            +---------------------------------------------------+
                                            | The Velammal Cafeteria - Incentive Report Report |
                                            +---------------------------------------------------+

                                             Period: 10-2024
                                            +------+---------+---------------+-------------+-----------+
                                            | Rank | staffId | Name          | Amount sold | Incentive |
                                            +======+=========+===============+=============+===========+
                                            | 1    | 1       | Administrator | 80.00       | 2         |
                                            +------+---------+---------------+-------------+-----------+
 What would you like to do?

                                            +---+--------------------+
                                            | 1 | User control       |
                                            | 2 | Manage Customers   |
                                            | 3 | Customize menu     |
                                            | 4 | Daily Stock receipt |
                                            | 5 | Daily Sales entry  |
                                            | 6 | Report generation  |
                                            | 7 | Exit               |
                                            +---+--------------------+
                                            ENTER AN OPTION: 7
                                             Logging out user: Administrator...
                                              SUCCESS: Successfully logged out!
                                             Thank you
Press enter to continue...
```

Printed Bill:



```
+-----------------------------------+
| The Velammal Cafeteria - Bill Report |
+-----------------------------------+

Date: 2024-10-13
Token ID: 2
custCode: 3
Customer Name: Bala
+-----+---------------+----------+-------+
| SNO | Item          | Quantity | Price |
+=====+===============+==========+=======+
| 1   | Mineral Water | 4        | 40.00 |
| 2   | Meals         | 1        | 40.00 |
+=====+===============+==========+=======+
|     |               | Total    | 80.00 |
+-----+---------------+----------+-------+
```

CONCLUSION

The Cafeteria Management System is a comprehensive solution designed to modernize and streamline cafeteria operations through the effective use of technology. By leveraging the power of computers and database management, this system significantly improves upon traditional manual methods, offering quick and efficient functionality for day-to-day cafeteria management tasks.

This robust system has been thoughtfully developed to address all the essential requirements of a modern cafeteria. It provides a reliable platform that has been tested and proven effective in various scenarios. The system's capability to handle and store large volumes of data makes it an invaluable tool for cafeteria administrators and staff alike.

In conclusion, the Cafeteria Management System represents an important advancement for modern food service operations. By automating many routine tasks and providing powerful data management capabilities, it allows cafeteria staff to focus more on food quality and customer service. As such, this system is not just a technological upgrade, but a valuable tool for enhancing overall cafeteria operations and customer satisfaction.

BIBLIOGRAPHY

- Computer Science with Python – XII by Sumita Arora
- **ANSI Escape codes:** https://talyian.github.io/ansicolors/
- **MySQL Docs:** https://dev.mysql.com/doc/refman/8.4/en/
- **Python Docs:** https://docs.python.org/3/
- **Oracle MySQL Docs:** https://docs.oracle.com/cd/E17952_01/mysql-8.0-en/
- **SQL Tutorial:** https://www.w3schools.com/sql/default.asp
- https://dbdiagram.io/
- https://www.wikipedia.org/