**A Micro Project Report**

**on**

**Problem Solving using C Language**

Submitted by

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET (AUTONOMOUS)**

**Accredited by NAAC with A+ Grade and NBA under Tier-1**

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**2024-20****25**

**NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET**

**(AUTONOMOUS)**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



**CERTIFICATE**

**This is to certify that A.Naga Shanmukeswari, Roll No: 24475A0544, a Second Year Student of the Department of Computer Science and Engineering, has completed the Micro Project Satisfactorily in “Problem Solving using C Language" for the Academic Year 2024-2025.**.

Project Co-Ordinator HEAD OF THE DEPARTMENT

**Dr. Rama Krishna. E, M.Tech., Ph.D.** **Dr. S. N. Tirumala Rao,** **M.Tech., Ph.D. Asst. Professor Professor**

**INDEX**

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| **S.No** | **Description** |
|  | Department store Management system (stock management and billing system) |

**Department Store Management System**

**AIM**:

**Write a C program to create a stock management and billing system.**

#include <stdio.h>

#include <string.h>

struct Product {

int id;

char name[50];

float price;

int quantity;

};

void display\_stock(struct Product products[], int count) {

printf("\nAvailable stock:\n");

printf("ID\tName\t\tPrice\tQuantity\n");

for (int i = 0; i < count; i++) {

printf("%d\t%s\t\t%.2f\t%d\n", products[i].id, products[i].name, products[i].price, products[i].quantity);

}

}

void process\_billing(struct Product products[], int count) {

int itemID, quantity, found;

float total = 0;

printf("\nEnter the number of items you want to purchase: ");

int n;

scanf("%d", &n);

for (int i = 0; i < n; i++) {

printf("\nEnter product ID to purchase: ");

scanf("%d", &itemID);

found = 0;

for (int j = 0; j < count; j++) {

if (products[j].id == itemID) {

found = 1;

printf("Enter quantity for %s: ", products[j].name);

scanf("%d", &quantity);

if (quantity > products[j].quantity) {

printf("Insufficient stock for %s. Available quantity: %d\n", products[j].name, products[j].quantity);

} else {

products[j].quantity -= quantity;

total += products[j].price \* quantity;

printf("Added %d x %s to the cart. Total: %.2f\n", quantity, products[j].name, products[j].price \* quantity);

}

}

}

if (!found) {

printf("Product ID %d not found in the stock\n", itemID);

}

}

printf("\nTotal bill: %.2f\n", total);

}

int main() {

struct Product products[5] = {

{1, "Soap", 1.50, 50},

{2, "Shampoo", 3.75, 30},

{3, "Toothpaste", 2.00, 20},

{4, "Towel", 5.00, 15},

{5, "Toothbrush", 1.20, 40}

};

int choice;

while (1) {

printf("\nDepartmental Store Management System\n");

printf("1. Display stock\n");

printf("2. Process billing\n");

printf("3. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1:

display\_stock(products, 5);

break;

case 2:

process\_billing(products, 5);

break;

case 3:

printf("Exiting program. Thank you!\n");

return 0;

default:

printf("Invalid choice, please try again\n");

}

}

return 0;

}

OUTPUT:

Departmental Store Management System

1. Display stock

2. Process billing

3. Exit

Enter your choice: 1

Available stock:

ID Name Price Quantity

1 Soap 1.50 50

2 Shampoo 3.75 30

3 Toothpaste 2.00 20

4 Towel 5.00 15

5 Toothbrush 1.20 40

Departmental Store Management System

1. Display stock

2. Process billing

3. Exit

Enter your choice: 2

Enter the number of items you want to purchase: 2

Enter product ID to purchase: 1

Enter quantity for Soap: 3

Added 3 x Soap to the cart. Total: 4.50

Enter product ID to purchase: 2

Enter quantity for Shampoo: 2

Added 2 x Shampoo to the cart. Total: 7.50

Total bill: 7.50

Departmental Store Management System

1. Display stock

2. Process billing

3. Exit

Enter your choice: 3

Exiting program. Thank you!