University of Saint Thomas, Maputo, Mozambique  
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Lecturer : Lars Lamos

Assignment 2

Supermarket cashier Documentation

Group Members: Kainza Scovia, Erick Wasonga ,Daniel Darsamo

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# Documentation of Supermarket Cashier Handling

## Usage (The Ideia behind the Supermarket Cashier Handling program)

To apply the energy usage estimation formula to the supermarket checkout scenario, we will substitute processors with cashiers, hours of operation with shop hours, and the amount of energy usage (watts) with the number of customers.

Given:

* 4 cashiers (instead of processors)
* 24 hours of operation (instead of 24 hours of runtime)
* 20 customers (instead of 120 watts)

The formula to estimate the "customer handling capacity" can be derived similarly:

P=(Number of Cashiers)×(Number of Customers per Cashier)×(Hours of Operation)

For our supermarket scenario:

* Number of Cashiers = 5
* Number of Customers per Cashier = 12
* Hours of Operation = 10

Substituting these values into the formula:

P=5×12×10

Let's compute this:

P=5×12=10=600

Thus, the total "customer handling capacity" in this scenario is 600 customer-hours.

**Interpretation**

This means that over the course of 10 hours, 5 cashiers can handle a total of 600 customers, assuming each cashier can handle 12 customers per hour.

## Code Structure

## Variable Declaration

* **int num\_cashiers:** This variable stores the number of cashiers.
* **int customers\_per\_cashier:** This variable stores the number of customers each cashier can handle per hour.
* **int hours\_of\_operation:** This variable stores the hours of operation.

## Input Values

* The program prompts the user to enter the number of cashiers and reads the input using **scanf.**
* The program prompts the user to enter the number of customers each cashier can handle per hour and reads the input using **scanf.**
* The program prompts the user to enter the hours of operation and reads the input using **scanf.**

## Compute Customer Handling Capacity

* The total customer handling capacity is computed by multiplying the number of cashiers **(num\_cashiers**), the number of customers each cashier can handle per hour **(customers\_per\_cashier)**, and the hours of operation **(hours\_of\_operation).**

**Output Result**

* The program outputs the total customer handling capacity using **printf.**

**Return Statement**

* The main function returns 0 to indicate successful completion of the program.

## Output

