ITM
IT MUSTAKBIL

Exercise 21

1D Array

Tasks:

1. Jamelia has a greenhouse where she grows various fruits and vegetables. To maintain the ideal temperature within the greenhouse, she uses a system that incorporates a temperature sensor and a microprocessor. The system is designed to ensure that the temperature remains between 25°C and 30°C (inclusive). It takes appropriate actions based on the temperature readings:

   If the temperature gets too hot, the system opens a window and turns off a heater.
   If the temperature gets too cold, the system closes the window and turns on a heater.

   You've been assigned a task to create a simulation of Jamelia's greenhouse temperature control system using C++. In this task, you are required to utilize arrays for managing temperature readings and implement the control logic within a loop.

2. The city's Election Commission is introducing an electronic voting system for an upcoming election. You have been tasked with developing a C++ program to manage this system. The program should ensure a smooth voting process and provide accurate results.
   Here are the details of the system:
   - The election has three candidates: A, B, and C.
   - Voters are required to input their 13-digit CNIC (Computerized National Identity Card) for verification before voting.
   - The program should prevent candidates from voting for themselves.
   - After each vote, the program should display the current number of votes for each candidate.
   - The program should terminate when the election official enters "END" and displays the total votes for each candidate and overall.
   - Your task is to create a C++ program that implements the electronic voting system using a 1D array.

   Your program should include:

   - A 1D integer array to store the votes for each candidate (A, B, C).
   - A 1D string array to store the names of the candidates.
   - Proper input validation for CNIC and vote choice.
   - A loop that allows voters to cast their votes until the official enters "END".
   - Logic to skip counting votes when a candidate votes for themselves.
   - A final display of the votes received by each candidate and the total number of votes overall.