UNIVERSITY OF GUJRAT
A WORLD CLASS UNIVERSITY

Department of Computer Science
(BSCS _ A)

Project

Assignment & Deadline Management System

Programming Fundamentals (CS_102)

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Assignment & Deadline Management System

DOCUMENTATION

Program Description:

Purpose of the Program

• This program is designed to let users organize class assignments in one place.

• It monitors all the names of assignments against the dates they should be completed and whether they are done.

• The system ensures that the data being collected on each assignment is stored and reused on future runs of the program.

Programming Concepts and Operations Used

The program uses several fundamental programming operations and concepts to function effectively:

- **Loops**
  - Repetition is used to continuously display the menu until the user chooses to exit.
  - Loops are also used when displaying all assignments and processing stored data.
- **Conditional Statements**
  - A decision determines the outcome of action based on user choices.
  - Conditions are applied to validate input and prevent invalid works.
- **Functions (Modular Programming)**
  - Different tasks like loading data, saving of data, adding of assignments, and update the status are divided into different functions.
  - This enhances readability, organization, and reusability of code.
- **Arrays**
  - Arrays are used to store multiple assignments.
  - There are saperate arrays for maintaining titles, deadlines, and statuses.
- **File Handling**
  - Information is written out to a file for later use when the program is not running.
- **User Input and Output Operations**

    - The program takes input from the user by a keyboard.
    - The output is displayed in a clear way on the screen.
- **Data Validation**
    - It ensures that only valid user input is taken into consideration by the program.
    - This aviods many sections of wrong assignments and system errors.

Program Startup Behavior

- It first checks for any saved assignment data when the program starts.
- If data is there, it is automatically loaded.
- If no data exists, the program starts with an empty assignment list.

Menu-Based Interaction

- The program has a menu that keeps on running until the user ends it.
- Users can:
    - Add an assignment
    - View all assignments
    - Mark an assignment as finished
    - Save data and exit
- This design makes interaction simple and intuitive.

Adding a New Assignment

- Users enter the assignment details like the title and deadline.
- Every new assignment is marked as **Pending** in the start.
- The program checks the assignment limit is not exceededing.

Viewing Assignments

- All assignments are shown in a list.
- Every task shows its title, deadline, and status.
- If there are no assignments, the user is informed about that.

Marking an Assignment as Completed

- User choose an assignment from the list.
- Input is validated before updating the assignment status.
- The assignments which are done are marked as **Completed**.

Data Storage and Saving

- All assignments records are saved automatically when ending the program.
- This provides continuity for the program sessions.

Overall Workflow

- Program starts and loads the data which is saved
- User interaction is by the menu system
- Assignments are maintained and updated
- Data is saved before exit

Conclusion

Through the Assignment & Deadline Management System, one can understand how simple programming concepts like loops, conditional statements, functions, arrays, and files can be applied effectively. Creating such a system is a simple yet apt example of melding structured logic and modular programming concepts into one functional management system.