C#.NET CAPSTONE: TASK LIST

NOTE: Points will be awarded for items that are written correctly in themselves but don't actually work because other things are broken. There is a total of 10 points available for this lab.

Intro: Jill, a project manager on your team, comes to you after you've been working for a few weeks. "So far you've been doing great work," she says, "so I'd like to ask you to take on an extra project. We've been having trouble meeting our goals on time, and no app we've tried really fits out model. We'd like to build our own task management app. Can you start building us a task manager? We don't know if we want it to be a mobile app or web app eventually, so just start with a console app. The senior devs tell me that it'll be easy to take the code and eventually build it into one or the other."

Task: Manage tasks through a menu system.

What will the application do?

- Present a menu to the user and ask them to choose:
    1. List tasks
    2. Add task
    3. Delete task
    4. Mark task complete
    5. Quit
- **1 Point:** If the user chooses list tasks:
    - Display all tasks.
    - Format the task so output is tabbed--it may be easiest to show the description last.
    - Show a task number, but start the task numbering with 1 not 0.
- **1 Point:** If the user chooses to add task:
    - Prompt the user to input each piece of data (team member's name, task description, due date. (Tasks will always start incomplete--that is, completion status is false.)
    - Instantiate a new Task with this info, then add it at the end of your List.
- **1 Point:** If the user chooses to delete task:
    - Ask the user which task number. Remember, they'll be using 1 through the size of the list, not 0 through size - 1, so shift their input accordingly.
    - Validate the number entered--make sure it's in range. Prompt them until they enter a number in range.
    - Display the task the user chose. Ask if they're sure they want to delete.
    - If they answer Y, remove that item from your list and return to the main menu. If they answer N, return to the main menu.
- **1 Point:** If the user chooses mark task complete:
    - Ask the user which task number. Remember, they'll be using 1 through the size of the list, not 0 through size - 1, so shift their input accordingly.
    - Validate the number entered--make sure it's in range. Prompt them until they enter a number in range.
    - Display the task the user chose. Ask if they're sure they want to mark the task as complete.

    - If they answer Y, change the completion status within that item to true and return to the main menu. If they answer N, return to the main menu.
- **1 Point:** Display the main menu options every time they return to the main menu.

Build Specifications:

- **1 Point:** Build a Task class.
    a. As data members, the task should include
        1. Team member's name
        2. Brief description
        3. Due date
        4. Whether it's been completed or not

    b. Include at least one constructor and properties for all data members
- **1 Point:** Store your Tasks in a List so you can easily add and delete.

Additional Requirements:

- **1 Point:** For answering Lab Summary when submitting to the LMS
- **-2 Points:** if there are any syntax errors or if the program does not run (for example, in a Main method).

Extended Exercises (2 points maximum):

- **1 Point:** Allow the user to display tasks for only one team member.
- **1 Point:** Allow the user to display tasks with a due date before a date they choose.
- **1 Point:** Allow the user to edit a task that has already been entered.

Hints

- Build the task class first.
- Since tasks always start incomplete, you could write a constructor that doesn't require that as an argument.

E: 10-9	**M:** 6 - 8	**D:** 0 - 5

Console Preview

```
Welcome to the Task Manager!
    1.  List tasks
    2.  Add task
    3.  Delete task
    4.  Mark task complete
    5.  Quit

What would you like to do? 2

ADD TASK
Team Member Name: Grant
Task Description: Update student workbooks
Due Date: 07/26/2019

Task entered!
    1.  List tasks
    2.  Add task
    3.  Delete task
    4.  Mark task complete
    5.  Quit

What would you like to do? 5

Have a great day!
```

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