Exercise - Command Pattern (40 minutes)

The provided code implements a simple console-based text editor program which lets the user edit text documents. A text document is simply a sequence of characters. The program lets the user perform the following operations:

1. Start a new, empty document
2. Insert a string at a specified index in the document
3. Delete a sequence of characters at a specified index
4. Replace a sequence of characters at a specified index with a new string
5. Display the current contents of the document
6. Save the document to a file
7. Open a document from a file

Your task is to use the Command pattern to add Undo and Redo operations to the program. Your implementation must use the Command pattern, and not some alternate approach. More specifically, do the following:

1. Define a Command interface or abstract class
2. Write an UndoRedoManager class that contains the undo and redo Command stacks, and provides operations such as: undo, redo, canUndo, canRedo
3. Modify the TextEditor class to implement undo/redo using Command and UndoRedoManager. Undo/Redo must work for the following operations:
    a. Start
    b. Insert
    c. Delete
    d. Replace
    e. Open

Zip up and submit your code on Canvas.