Text Processing and Wrapper Classes

String indexing and Parsing

Ask the user to enter a time in military time (24 hours).
The program should convert and display the equivalent conventional time (12 hour with AM or PM) for each entry if it is a valid military time.
An error message will be printed to the console if the entry is not a valid military time.

1. In Time.java, add conditions that validate the data.
    a. Conditions needed:
        i. Check the length of the string
        ii. Check the position of the colon
        iii. Check that all other characters are digits

    b. Add lines that will separate the string into two substrings containing hours and minutes.
        i. Convert these substrings to integers and save them into the instance variables.

2. In TimeDemo class, add a condition to the loop that converts the user's answer to a capital letter prior to checking it.

3. Compile, debug, and run. Test out your program using the following valid input: 00:00, 12:00, 04:05, 10:15, 23:59, 00:35, and the following invalid input: 7:56, 15:78, 08:60, 24:00, 3e:33, 1:111.

Screenshot of the output TimeDemo.class below:

```
C:\windows\system32\cmd.exe - java  TimeDemo                    _  □   X

c:\JAVA\homework8\Lab>javac Time.java

c:\JAVA\homework8\Lab>javac TimeDemo.java

c:\JAVA\homework8\Lab>java TimeDemo
Enter a military time using the ##:## form    00:00
12:00 AM
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    12:00
12:00 PM
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    04:05
4:05 AM
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    10:15
10:15 AM
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    23.59
11:59 PM
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    00:35
12:35 AM
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    7:56
7:56 is not a valid miliary time.
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    15:78
15:78 is not a valid miliary time.
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    08:60
08:60 is not a valid miliary time.
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    24:00
24:00 is not a valid miliary time.
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    3e:33
3e:33 is not a valid miliary time.
Do you want to enter another (Y/N)?
y
Enter a military time using the ##:## form    1:111
1:111 is not a valid miliary time.
Do you want to enter another (Y/N)?
```