Hangman Game Project

Assignment Overview:

Hangman is a popular word game. In this game, the player is given some number of blanks representing a word or phrase and he/she has to guess the word or phrase using at most a certain number of guesses.

Task:
Your task is to design a class to implement the Hangman game in Java.

Program Specifications:
1. Output a brief description of the game of hangman and how to play. This a 2 player game where you and a partner take turns being the person entering the phrase and the person guessing.
2. Ask the user to enter the word or phrase that will be guessed (have a friend enter the phrase for you if you want to be surprised).
3. Output the appropriate number of dashes and spaces to represent the phrase (make sure it is clear how many letters are in each word and how many words there are.)
4. Continuously read guesses of a letter from the user and fill in the corresponding blanks if the letter is in the word, otherwise report that the user has made an incorrect guess. The user should have the option to guess the phrase or guess a letter.
5. Each turn you will display the phrase as dashes but with any already guessed letters filled in, as well as which letters have been incorrectly guessed so far and how many guesses the user has remaining.
6. The score for a player is the number of turns it took for them to correctly guess the phrase. If they do not guess the phrase within 6 turns, the game should reveal the word and their score is 10.
7. You **must** use at least 3 string methods or operators in a **useful** manner.

Assignment Notes:
• If a letter has already been guessed, output a message to the player and ask for input again.
• If the guess entered is not an alphabetic letter, output a message and ask for input again.
• If the letter is present in the word to be guessed, fill in the blanks appropriately with this particular letter.
• When a round ends - the word is guessed correctly, all the letters are guessed, or the player runs out of turns - print the scores of each player and ask the next player to enter a word.
• If the letter is not present in the word or phrase to be guessed, give a message to the player indicating that the guess is incorrect and the remaining number of chances is one less. If the player runs outs of chances, print out the correct phrase, the scores of each player, and ask the next player to enter a word.
• The game is over when a person reaches a score of 30 (that player loses). Lowest number of guesses wins.

Tips/Hints
1. This project can all be done with strings.
2. Substring is useful to insert a letter in a string or remove a letter from a string.
3. indexOf() returns the index at which the first instance of a substring is found in a string. If it is not in the string, it will return -1.
4. Remember if there is an apostrophe or a dash in the original word or phrase, you should output it instead of a dash so the user doesn't have to guess those

Sample Output (This is a one player version, so your output will be slightly different).

```
please enter phrase to guess: Honey-Bee
Changes Remaining   :  6
Missed Letters/Digits :  None


_ _ _ _ _ - _ _ _

Your guess (letters only): e
Changes Remaining   :  6
Missed Letters/Digits :  None


_ _ _ _ e _ - _ e e

Your guess (letters only): h
Changes Remaining   :  6
Missed Letters/Digits :  None


_ _ _ e _ - B e e

Your guess (letters only): 3
Not a valid character. Please enter a letter .

Your guess (letters only): h
You have already tried this letter or digit. Guess again!


Your guess (letters only): z
This character is not present in the name.
Changes Remaining   :  5
Missed Letters/Digits :  z

_ _ _ e _ - H e e

Your guess (letters only): i
This character is not present in the name.
Changes Remaining   :  4
Missed Letters/Digits :  zi

_ _ _ e _ - H e e

Your guess (letters only): |
```

You will need to plan your program in your notebooks ahead of time. Think about all the different parts of the Hangman game and the different methods and instance variables you will need.   You will run the game (input and output) from the main method.

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Make sure you comment your program so that it is easy for someone else to understand the intent behind your code.