A01 - Hangman

CS2450 is about Software Engineering – about all aspects of Software production from specification to evolution. Soon you will be asked to form teams and to choose a project to work on over this term.

Even though this is not a programming class and the focus is on activities like planning, scheduling, designing, testing, etc. there will be a time when the project needs to be implemented. Knowing the programming skills of the team members will help you choose an appropriate scope for the project.
That's why I want you to program a Hangman game in this first assignment.

Requirements:

a) It needs to be a console application
b) Programming Language: Java of C#
   If you don't program in either of these languages you can use a programming language of your choice. In that case let me know what other language you used as you turn in the assignment and show me a running version on your computer in class.
c) Know the word to guess
   You may hardcode a word (e.g. "Utah"). It is okay if your program works with just one word at the time. However, it still needs to work when I exchange the hardcoded word with something else – for example "Mississippi" or "Hawaii"
d) Initial number of lives: 6
e) Display the word in the following way:
   - each letter, that has **not** been **guessed** is an **underscore**
   - each letter that has been **guessed** is **printed**
   - if the word contains the same letter multiple times all occurrences count as guessed as soon as the use enters this letter
   - **Separate the underscores and letters with a blank** to make it easier to read
f) Display the current number of lives
g) Let the user guess a letter
h) If he letter is not part of the word, reduce the number of lives by one
i) Repeat e) – h) until the word is guessed or the number of lives is 0
j) If the word is guessed, the player wins. If the number of lives is 0 the player looses
   Display the complete word and write an appropriate message to indicate whether the player won or lost

Below you can find 2 sample outputs from different implementations of the game.

Sample Output 1:

```
_ _ _ _   (lives left: 6)

Your guess: a
_ _ a _   (lives left: 6)

Your guess: e
_ _ a _   (lives left: 5)

Your guess: i
_ _ a _   (lives left: 4)

Your guess: o
_ _ a _   (lives left: 3)

Your guess: u
u _ a _   (lives left: 3)

Your guess: d
u _ a _   (lives left: 2)

Your guess: t
u t a _   (lives left: 2)

Your guess: h
u t a h   (lives left: 2)

congratulations!
```

Turn in:

Zip up your hangman project and name it A01.zip
Turn it in via Canvas

Good luck!

Sample Output 2:

```
 ;--,
 |
 |
 |       _ _ _ _
_|____
Your guess: a

 ;--,
 |
 |
 |       _ _ a _
_|____
Your guess: b

 ;--,
 |  O
 |
 |       _ _ a _
_|____
Your guess: c

 ;--,
 |  O
 |  |
 |       _ _ a _
_|____
Your guess: d

 ;--,
 |  O
 | /|
 |       _ _ a _
_|____
Your guess: e

 ;--,
 |  O
 | /|\
 |       _ _ a _
_|____
Your guess: f

 ;--,
 |  O
 | /|\
 |/      _ _ a _
_|
Your guess: g

 ;--,
 |  O
 | /|\
 | / \   _ _ a _
_|____
The word was Utah - try again
```