

 100 XP

# Exercise - Complete a challenge activity using do and while iteration statements

9 minutes

Code challenges will reinforce what you've learned and help you gain some confidence before continuing on.

## Role playing game battle challenge

In some role playing games, the player's character battles non-player characters, which are usually monsters or the "bad guys". Sometimes, a battle consists of each character generating a random value using dice and that value is subtracted from the opponent's health score. Once either character's health reaches zero, they lose the game.

In this challenge, we'll boil down that interaction to its essence. A hero and a monster start with the same health score. During the hero's turn, they'll generate a random value which will be subtracted from the monster's health. If the monster's health is greater than zero, they'll take their turn and attack the hero. As long as both the hero and the monster have health greater than zero, the battle will resume.

## Code challenge - write code to implement the game rules

Here are the rules for the battle game that you need to implement in your code project:

- You must use either the `do-while` statement or the `while` statement as an outer game loop.
- The hero and the monster will start with 10 health points.
- All attacks will be a value between 1 and 10.
- The hero will attack first.
- Print the amount of health the monster lost and their remaining health.
- If the monster's health is greater than 0, it can attack the hero.
- Print the amount of health the hero lost and their remaining health.

- Continue this sequence of attacking until either the monster's health or hero's health is zero or less.
- Print the winner.

1. Ensure that you have an empty Program.cs file open in Visual Studio Code.

If necessary, open Visual Studio Code, and then complete the following steps to prepare a Program.cs file in the Editor:

- a. On the **File** menu, select **Open Folder**.
  - b. Use the Open Folder dialog to navigate to, and then open, the **CsharpProjects** folder.
  - c. In the Visual Studio Code EXPLORER panel, select **Program.cs**.
  - d. On the Visual Studio Code **Selection** menu, select **Select All**, and then press the Delete key.
2. Write your game code that implements each rule.
3. Run your application and verify that your output meets the requirements.

No matter how you do it, your code should produce a similar output:

#### Output

```
Monster was damaged and lost 1 health and now has 9 health.  
Hero was damaged and lost 1 health and now has 9 health.  
Monster was damaged and lost 7 health and now has 2 health.  
Hero was damaged and lost 6 health and now has 3 health.  
Monster was damaged and lost 9 health and now has -7 health.  
Hero wins!
```

Obviously, because of the random nature of the code, the outcome will be different each time, so your results will definitely be different than the output displayed above. However, you can use this as an example of the output your code should generate.

Whether you get stuck and need to peek at the solution or you finish successfully, continue on to view a solution to this challenge.

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## Next unit: Review the solution to do and while challenge activity

Continue >

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