

## Exercise – If Statements

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First are quick review questions that you should write down the answers for in a document. The second part is practical exercises. Both are important for your learning and to help you retain the concepts.

### Review Questions

1. Try and describe an **if statement**:
2. What happens if the **condition** of an **if statement** is true?
3. Describe how **else statements** work:
4. Describe how **else if statements** work:
5. In a series of **if** and **else if statements**, if the first **if statement** condition is true, and there are 3 **else if statements** after it, how many of those **else if statements** will check their conditions? Why?
6. How many times can you nest **if statements**?
7. What does the **<= Less Than Or Equal** relational operator do?
8. What does the **!= Not Equal** relational operator do?

### Practical Exercise

Create a new C# console project in Visual Studio called **IfStatementsExercise**.  
Add the following code to the **Main** function:

1. Create a **bool** called **playerAlive**, and initialise it's value to **true**.
2. Afterwards, create an **if statement** that checks to see if the **playerAlive** variable is **true**. If it is, print out some text telling the player they're still alive.
3. Create an **else statement** after it. Inside it, print text telling the player they are dead.
4. Create a new **int** called **invulnerabilityTimer**, and set it's value to something greater than 0.

5. On the next line, subtract some value from your **invulnerabilityTimer** variable
6. Create a new **if statement**, and for the condition, check to see if **invulnerabilityTimer** is **greater than 0**. If it is, print out text telling the player they are invulnerable.
7. Create an **else if statement** after the **if statement**, and set the condition to check if **invulnerabilityTimer** is **equal to 0**. If it is, print text telling the player they are now vulnerable to damage.
8. Create another **else if statement** after that, and set the condition to check if **invulnerabilityTimer** is **less than 0**. If it is, set the value of **invulnerabilityTimer** back to 0.
9. Finally, inside your **if statement** where you check to see if **invulnerabilityTimer** is **greater than 0**, nest another **if statement**. Set the condition to check if **playerAlive** has a value of **true**. If it does, subtract a value of 1 from **invulnerabilityTimer**.