**People in space**

Worked example . Weather

This is an example of a Python program that you developed earlier. It prompts the user for the weather in a particular location and provides clothing advice accordingly.

|  |  |  |
| --- | --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11 | print("What’s the weather like?")  weather = input()   |  | | --- | | if weather == "cloudy":  advice = "No sunglasses"  elif weather == "rainy":  advice = "Get an umbrella"  elif weather == "snowy":  advice = "Mittens and earmuffs"  else:  advice = "No particular advice" |   print(advice) |

**Syntax checklist**

If you encounter an **error message**, read it and try to fix the problem. Use the list below to check for common errors (and tick ✓ if you find yours).

|  |  |
| --- | --- |
|  | misspelt if or else (this includes using capitals) |
|  | forgot the colon : after the if condition or after else |
|  | forgot to **indent** statements in the if block or the else block |
|  | indented if or else by mistake |
|  | used = instead of == in the condition for if, to check if two values are equal |
|  | used quotes around the name of a variable |
|  | forgot to use quotes around a string literal (like "snowy") |

**Testing your program**

Once you manage to run your program successfully, test it at least once for every possible **branch** of the if, elif, else statement.

Task . People in space

Below is a short program that displays how many people are currently in space.

|  |  |
| --- | --- |
| 1  2  3 | from ncce.space import people  number = people()  print(number, "people in space right now") |

Line 1 imports the people function from the space module, in order to retrieve this information from an online service, so the number of people displayed will not always be the same. This is **not a standard Python component**; it has been created specifically to allow you to perform these tasks.

**Step 1**

**Open** this [Python program](https://ncce.io/py-space-40) (ncce.io/py-space-40) in your development environment and **extend** it, so that it asks the user to guess the number of people currently in space.

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The number of people in space is retrieved from an online service through the people function. It is not always the same and the numbers shown here are just an example. | |
| The program displays a prompt and waits for keyboard input. | How many people do you think are in space right now? |
| The user types in a reply. | 5 |
| The program displays the correct number. | 8 people in space right now |

**Tip**

Don’t delete or modify any of the existing program statements, as you will need them. Simply insert any additional instructions.

**Tip**

Introduce a variable called guess, to refer to the number entered by the user.

**Tip**

Don’t forget that the user’s guess should be an integer. You will need to use int.

**Tip**

Before you proceed to the next step, make sure that you **run** your program, to verify that there are no errors.

**Step 2**

Extend the program so that it compares the number of people in space with the user’s guess and displays an appropriate message.

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The number of people in space is retrieved from an online service through the people function. It is not always the same and the numbers shown here are just an example. | |
| The program displays a prompt and waits for keyboard input. | How many people do you think are in space right now? |
| The user types in a reply. | 8 |
| The program displays a message that the user’s guess is correct. | That's right!  8 people in space right now |

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The number of people in space is retrieved from an online service through the people function. It is not always the same and the numbers shown here are just an example. | |
| The program displays a prompt and waits for keyboard input. | How many people do you think are in space right now? |
| The user types in a reply. | 5 |
| The program displays a message that the user’s guess is incorrect, along with the correct number. | It's actually more than that  8 people in space right now |

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The number of people in space is retrieved from an online service through the people function. It is not always the same and the numbers shown here are just an example. | |
| The program displays a prompt and waits for keyboard input. | How many people do you think are in space right now? |
| The user types in a reply. | 9 |
| The program displays a message that the user’s guess is incorrect, along with the correct number. | It's actually fewer than that  8 people in space right now |

**Tip**

There are three branches, so use multi-branch selection: if, elif, else.

**Tip**

Use == to compare if two values are equal.

Use < or > to compare if a value is less than or greater than another.

Explorer task . Temperature

**Open** the [Python program below](https://ncce.io/py-temp-40) (ncce.io/py-temp-40) in your development environment.

|  |  |
| --- | --- |
|  | from weather import temperature  print("Where do you live?")  location = input()  temp = temperature(location) |

The program imports the temperature function from the weather module, to retrieve the current temperature at a specified location from an online service. This is **not a standard Python component**; it has been created specifically to allow you to perform these tasks.

**Step 1**

**Extend** the program so that it displays an appropriate message dependingon the range that the current temperature is in.

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The current temperature is retrieved from an online service. It is not always the same and the numbers shown here are just an example. | |
| The program displays a prompt and waits for keyboard input. | Where do you live? |
| The user types in a reply. | Nuuk |
| The program displays the current temperature and a message that depends on the temperature. | Current temperature in Nuuk is -5.0  It’s freezing cold |

Resources are updated regularly — the latest version is available at: [ncce.io/tcc](http://ncce.io/tcc).

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