**Practise using selection**

Worked example . Greeting

This is an example of the Python program that you have developed so far: it prompts the user for their name and reserves a special greeting for anyone named Elizabeth.

|  |  |
| --- | --- |
| 1  2  3  4  5  6 | print("What’s your name?")  user = input()  if user == "Elizabeth":  print("Good morning Your Majesty")  else:  print("Hello", user) |

**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 "Elizabeth") |

**Testing your program**

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

**Tip:** In every task, the problem statement includes sample interactions between the user and the program. Use the values provided in these examples to test your program.

Task 1 . Film critic

You are going to make a program that asks for the user’s favourite film. The program will either react enthusiastically to one particular film or display a generic comment.

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The result displayed depends on user input, so it will not always be the same. | |
| The program displays a prompt and waits for keyboard input. | Best film ever? |
| The user types in a reply. | Star Wars |
| The program displays the result. | Star Wars is not too bad |

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** The result displayed depends on user input, so it will not always be the same. | |
| The program displays a prompt and waits for keyboard input. | Best film ever? |
| The user types in a reply. | BFG |
| The program displays the result. | BFG is my favourite too! |

**Step 1**

**Open** this [**incomplete** program](https://ncce.io/py-critic-30) (ncce.io/py-critic-30) in your development environment:

|  |  |
| --- | --- |
| 1  2  3  4  5  6 | print("Best film ever?")  film = input()  if :  print(film, "is not too bad")  else:  print(film, "is my favourite too!") |

**Step 2**

**Complete** line 3 with the **condition** that your program will need to check.

**Tip:** Use == to check if two values are equal, or != to check if two values are different.

|  |  |
| --- | --- |
| **Step 3**  **Indent** any line(s) of code that you believe should be indented. | **Step 4**  Once you manage to **run** your program successfully, **test** it. |

Task 2 . Lucky number

**Open** the [Python program below](https://ncce.io/py-lucky-30) (ncce.io/py-lucky-30) in your development environment. It picks a **specific** ‘lucky number’ and displays it to the user.

|  |  |
| --- | --- |
| 1  2 | lucky = 13  print("My lucky number is", lucky) |

**Step 1**

**Extend** this program into a number guessing game. The program should ask the user to guess the lucky number, and then it should display a message, depending on whether or not the user guessed the lucky number.

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** Use these numbers to test that your program works correctly. In general, the messages displayed will depend on user input and will not always be the same. | |
| The program displays a prompt and waits for keyboard input. | Guess my lucky number: |
| The user types in a reply. | 13 |
| The program displays a message that the user’s guess is correct. | Amazing, that’s right! |

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** Use these numbers to test that your program works correctly. In general, the messages displayed will depend on user input and will not always be the same. | |
| The program displays a prompt and waits for keyboard input. | Guess my lucky number: |
| The user types in a reply. | 7 |
| The program displays a message that the user’s guess is incorrect. It also displays the lucky number. | Sorry, it’s not 7  My lucky number is 13 |

**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 to convert user input from the keyboard to an integer.

**Tip**

Use == to check if two values are equal and != to check if they are different. Do not confuse == with =, which is used in assignments.

**Step 2**

**Extend** the program that you created in the previous task so that, **regardless of the outcome**, this message is displayed at the end of the game:

Nice playing with you

**Step 3: Checklist**

Perform each of the tests below (and tick ✓ the boxes when you have finished them).

|  |  |
| --- | --- |
|  | When the user guesses the lucky number, does the program display a message that the guess is correct? |
|  | When the user fails to guess the lucky number, does the program display a message that the guess is incorrect? |
|  | Does the program display a message that reveals the magic number **only** when the user’s guess is incorrect? |
|  | Does the program **always** display a goodbye message to the user, regardless of the outcome of the game? |

Explorer task . Eligible to vote

You are going to make a program that asks for the user’s age and displays a message that says whether or not the user is eligible to vote.

In the UK, you are eligible to vote when you are 18 or over.

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** Use these numbers to test that your program works correctly. In general, the result displayed will depend on user input. | |
| The program displays a prompt and waits for keyboard input. | How old are you? |
| The user types in a reply. | 21 |
| The program displays a message. | You are eligible to vote |

|  |  |
| --- | --- |
| **Example** |  |
| **Note:** Use these numbers to test that your program works correctly. In general, the result displayed will depend on user input. | |
| The program displays a prompt and waits for keyboard input. | How old are you? |
| The user types in a reply. | 14 |
| The program displays a message. | You are not eligible to vote  4 more years to go |

**Step 1**

Write your program, run it, and test it. Use the code from the worked example and the previous tasks as points of reference.

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

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