7. Extension: Which questions?

So far, we've had to ask each question every time we want to guess - even if you only needed to find out what their accessory is. Now, we want to let the player decide which question they want to ask.

Task 7.1: Eye colour, hair colour, accessory, or name?

At the start of your `while` loop, add a question that asks them what kind of question they would like to ask (eye colour, hair colour, accessory, or name?).

TUTOR TIPS

Students can decide how the player specifies what type of question they want to ask (eg enter 1 for eye, 2 for hair …).

Task 7.2: Question time!

You have 4 kinds of guesses and if statement checks.

Put each of these 4 chunks of code inside an if statement that means that it will only occur if this was the type of question the user wanted to ask.

Hint

Remember that `input` returns a `string`. Make sure that your type of `input` (string, int, etc.) matches the `if` statement!

TUTOR TIPS

If player enters number to indicate the type of question they want to ask, make sure they convert it from string to number (eg `int()`) if using numbers in `if`.

TUTOR TIPS

The finished code for all extensions is at end of booklet.

8. Extension: How many questions?

Now, let's track how many (or how few) questions it takes you each game to guess correctly!

Task 8.1: Counter!

Before your `while` loop create a `variable` that will be your 'guess' counter. Start by setting it to `0`.

TUTOR TIPS

Some students may just call this variable '`variable`'. It will be less confusing later if they gave this a meaningful name, like `counter`!

Task 8.2: Add 1!

Every time the user makes a guess (a name guess or any other feature guess), add one to this counter.

Hint

You'll need to add to the counter at the beginning of your `while` loop!

You can add 1 to a counter by using `counter = counter + 1` OR `counter += 1`

TUTOR TIPS

This counter has to be created before the `while` loop, otherwise they'll reset it every time.

Task 8.3: How many questions?

At the end of the game, `print` out how many guesses the user had.

TUTOR TIPS

The finished code for all extensions is at end of booklet.

9. Extension: I give up!

What if you're sick of guessing, and just want to find out who it is? Let's now add to our code so that we can decide to give up and finish the game.

Task 9.1: I give up!

When we check if the user has guessed the correct name, we tell them if they are correct or not.

If they aren't correct, ask them if they want to give up. If they do, end the game and reveal the answer. If they don't, let them continue.

Hint

Add another `if-else` statement to check what the user wants to do.

If they want to give up, `print` the answer and add a `break` to stop the loop

TUTOR TIPS

Students can decide how the player specifies if they want to give up (eg enter Y or N).

TUTOR TIPS

The finished code for all extensions is at end of booklet.

10. Extension: List the Info

It's hard to remember everything you have learned so far about the character. Let's store it!

Task 10.1 List to store the info

At the start of the game create an empty list called **`known_info`** to store all of the information we have about the mystery person.

It will look something like this, depending on what questions you've asked and what the answer was:

[[“eyes”, “blue”, “no”],
[“hair”, “brown”, “yes”],
[“accessory”, “hat”, “no”],
[“name”, “Tim”, “no”],
[“eyes”, “brown”, “yes”]]

Task 10.2 List to store the info

Every time the computer says 'yes' or 'no' to a guess, we want to store that information!

Create a variable called **`info`** and store a list of the information you just learned.

Hint

The different kinds of options (eyes, hair, accessory and name) will need different parts to be hard coded. Here's what it would look like for eyes if it wasn't correct:

```
info = ["eyes", eye_guess, "no"]
```

Task 10.3 List to store the info

Each time we get a new bit of data, append it to the **`known_info`** list.

Hint

This is how we add something to a list using append:

```
pets = [‘dog’, ‘cat’]
pets.append(‘axolotl’)
```

TUTOR TIPS

You can append a list to a list!

Task 10.4 Printing the info

Print all the known info at the start of every turn.

TUTOR TIPS

The code should look like this (no bonuses):

```
# <the student's name>

import random
people = [["Aleisha", "brown", "black", "hat"],
          ["Brittany", "blue", "red", "glasses"],
          ["Charlie", "green", "brown", "glasses"],
          ["Dave", "blue", "red", "glasses"],
          ["Eve", "green", "brown", "glasses"],
          ["Frankie", "hazel", "black", "hat"],
          ["George", "brown", "black", "glasses"],
          ["Hannah", "brown", "black", "glasses"],
          ["Isla", "brown", "brown", "none"],
          ["Jackie", "hazel", "blonde", "hat"],
          ["Kevin", "brown", "black", "hat"],
          ["Luka", "blue", "brown", "none"]]

print("Welcome to Guess Who")
player_name = input("What is your name? ")
print("Let us start playing, " + player_name)


# character = ["Aleisha", "brown", "black", "hat"]
# print(character)
character = random.choice(people)
# print(character)


name = character[0]
eye_colour = character[1]
hair_colour = character[2]
accessory = character[3]


counter = 0
```

```
known_info = []

while True:
      print("You know:", known_info)
      question = int(input("Which question? 0(eye) 1(hair) 2(accessory)
3(name) "))
      counter = counter + 1
      if (question == 0): # OR question == "0", if question is string
         guess = input("Guess their eye colour? ")
         info = ["eye", guess]
         if (guess == eye_colour):
            info.append("yes")
            print("Yes")
         else:
            info.append("no")
            print("No")
         known_info.append(info)
     elif (question == 1):
         guess = input("Guess their hair colour? ")
         info = ["hair", guess]
        if (guess == hair_colour):
           info.append("yes")
           print("Yes")
        else:
            info.append("no")
            print("No")
         known_info.append(info)
      elif (question == 2):
         guess = input("Guess their accessory? ")
         if (guess == accessory):
            info.append("yes")
            print("Yes")
         else:
            info.append("no")
            print("No")
          known_info.append(info)
     elif (question == 3):
        guess = input("Guess who? ")
        if (guess == name):
           print("You got it right!")
```

```
            print("You got it in", counter, "guesses!")
            break
        else:
            end = input("Do you want to give up (Y/N)? ")
            if (end == "Y"):
                print("It was", name)
                break
            else:
                info.append("no")
                print("Nope, sorry”)
        known_info.append(info)
```