



Girls' Programming Network

2017

**Sassy Security Chatbots!
Extensions!**



Extension Time

Now that our sassy security chatbot is up and running, we need to add more features!

You can complete any extension you like, in any order you like!

Extension: Adding to Addition!

Only having addition is too easy especially as your snoopy younger siblings get older and better at maths!

Goal: Randomly choose from plus, minus and times for our maths question

Asking the question

Step 1) We want to randomly choose between plus, minus and times

Remember `num1 = random.choice([1, 2, 3])` helped us choose a number

Instead of choosing a number chose a mathematical operator from:
“plus”, “minus” and “times”
Store it in a variable

Step 2) Update how you ask your question

Before it might have said:

`What is 5 plus 7:`

But now we need to make it include our randomly chosen operator.

Hint: Add some strings together to include your mathematical operator

Calculating the answer

Calculating the answer just got a bit harder!

Before we could just say: `real_answer = num1 + num2`

But we have to do a different thing based on whether we have chosen

“plus”, “minus” and “times”, These match up to + - *

- If we have chosen “plus” we want to do:
`real_answer = num1 + num2`
- If we have chosen “times” we want to do:
`real_answer = num1 * num2`
- And you can guess what “minus” needs.

Use an if statement to calculate the `real_answer`

Hint: *if* statement and a few *elif* statements



Extension: The More Maths the Merrier!

One maths question is not enough! We want to keep asking them questions, even if they'd never get in anyway.

Asking lots of questions!

Step 1) Add a `for` loop so we can ask them 5 maths questions!

```
If we want to do something 100 times we can do
for counter in range(100):
    Do a thing in here!!
```

Step 2) Move our code into the `for` loop

We need to have all of our math code inside the for loop so it'll happen for every question. That includes finding new random numbers to calculate!

A better scoring system!

Instead of storing “`passed`” or “`failed`” for our test result, let's keep count of how many they get right by storing a number instead! **Change how we find `test_result`.**

Step 1) When you create `test_result` set it to 0.

Step 2) Every time they get the answer correct add 1 to their `test_result`!

Step 3) Change where you check if the `test_result` is “`passed`” or “`failed`” to check whether they got enough right. **Let's say they have to get 3 out of 5!**

***Hint:** Check that `test_result` is greater or equal to 3 to pass or less than 3 to fail.*



Extensions: Make it Funnier!

So we've given our trick information to people with the decoy password, we made them do a maths test, even though we were never going to give them the secret info.

But is that enough? There's more funny things we can do to snoopers!

Goal: Make it even funnier!

Task 7.1: More security, more!

Think about jokes and tricks to add to your chatbot. Some ideas are below!
Put on those thinking hats!!

A Magic 8 Ball!

Trick imposters into thinking that your secret is a magic 8 ball. Distract the imposter with you magic 8 ball!

Ask the magic 8 ball for advice:

Will it rain today?

>>> Yes

Ask another question: Should I go shopping?

>>> Maybe

Ask another question: Will it rain today?

>>> Ask again later

ASCII Art

Add some ASCII art for fun!!!

Here is the super secret info ...

```
o_/_6 /#\ \
 \_/_ |##/
 ='| |--\ \
 /      #'-.
 \#|_-'-'-' /
 |/_ \_\_C # |"
 C/ ,--___/
```

Woof...



Extension: Magic 8 ball!

Goal: Make a magic 8 ball for the imposters

Magic 8 Ball

Step 1) We need a list of responses to choose from

Store it in a variable, like this:

```
answers = ["Yes", "No", "Maybe", "Ask again later"]
```

Think of a few more to add!

Step 2) Use `input` to ask the user a question

Step 3) Write a `while True` loop to never stop asking for questions

Hint: Have a look at Part 4 from the first workbook!

Step 4) Pick a random answer

Remember how we used `random.choice([1, 2, 3])` to get a random number? Use that to pick a random answer from `answers` and print it out!

Step 5) Ask another question!

Extension: ASCII Art!

Goal: Show some ASCII art to our secret agents

ASCII art

Step 1) Pick some ASCII art

Pick something you like from <http://www.ascii-art.de/ascii/> (or make your own!)

Note: If your picture doesn't print out as you expect it might have quotes inside it that are breaking your print. Edit the picture or choose another picture!

Step 2) Copy and paste it into IDLE

We want to `print` out our ASCII art. We can use `"""triple quotes"""` to make long strings. For example:

```
answer = """This is
           A really really
           Long
           answer"""
```



Extensions: Make it More Secure!

So we now have a password and a random maths question to protect our secrets. But is that enough security?

Goal: Make it even more secure!

Task 7.1: More security, more!

This is where you can get creative and come up with your own security questions. **Put on those thinking hats!!**

Think about a security question you want to add to your chatbot! Some ideas are below!!

A question only you know!



Just like Dumbledore asked Harry when Lord Voldemort returned.

What's my favourite flavour of jam?
Strawberry

A joke question

If you want to add in some fun and humour, why not add a joke?!



What do you call a bear with no teeth?
A gummy bear!

A knowledge question



If you're super smart, maybe you can ask a smart question. Just like the Ravenclaw dormitory password is the answer to a difficult question!

What's the fastest bird in the world?
Peregrine falcon at 389km/h

Complete the song lyric!



If you like Taylor Swift, you could have something like:

Cause the players gonna
play, play, play, play,
play
And the haters gonna:
Hate, hate, hate, hate



Make it More Secure!

Let's add that extra layer of security!

Have an idea now? Great! Here are the steps you need to take to add in your extra layer of security. These questions are tailored for a security joke question, but if you're using a different idea, make sure you change the variable name!

Step 1) Use `input` to ask a joke question! Store the response in `joke_response`

Step 2) We also need to store the real answer. Use the variable `joke_answer`.

Step 3) Just like in Part 5.2, we need to put in a checking mechanism to see if they got the correct answer!

Don't forget to print them a message saying if they got it right or wrong

Step 4) Now we need to update the part of the code where we check that the person has all the answers correct.

***Hint:** Have a look at Part 5.3!*

***Bonus:** Give them user more chances to get the joke right. Maybe give them a maximum number of tries! Check out Part 4 from Book 1*

★BONUS 7.3: Pick another security layer!★

There's no limit to how much security you can have. Feel free to be creative and add in as many as you can think of. Just follow the steps in Task 7.2.

***Hint:** Make sure you use different variables names!*

