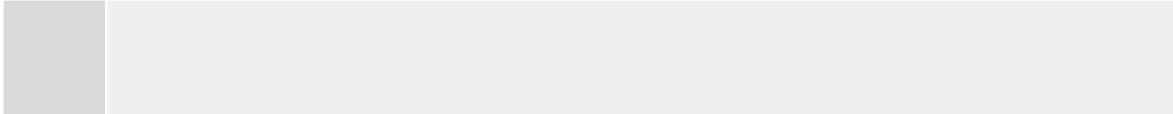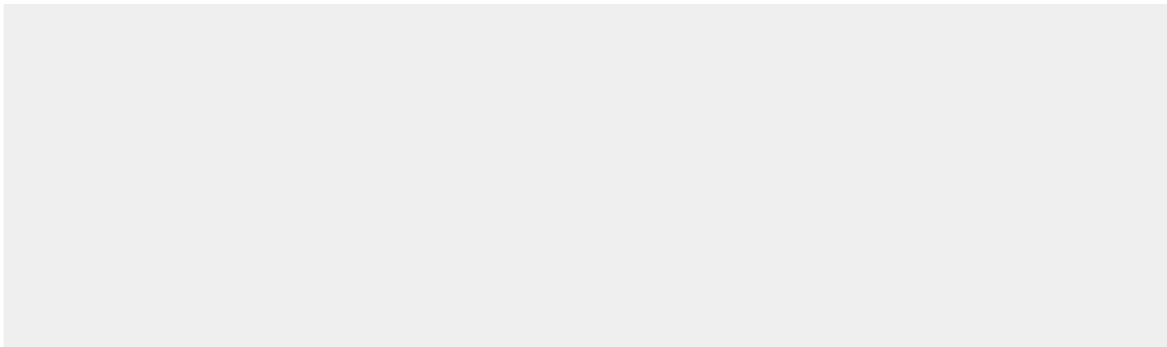# Twinkle, twinkle little sequence

Predict

Take a look at the code below. Read it carefully and try to make a prediction about what might happen when this code is executed.

```
1    from time import sleep
2
3    def twinkle():
4        print("Twinkle, twinkle little star")
5        sleep(3)
6        print("How I wonder what you are")
7        sleep(3)
8
9    def upabove():
10       print("Up above the world so high")
11       print("Like a diamond in the sky")
12
13   twinkle()
```

`sleep()` is a type of subroutine known as a **function**. This **function** is taken from a **module** created for Python and allows you to use it without knowing the code behind it. The **import** statement on line 1 lets the Python interpreter know that you will be using it with your program and imports it for you.

Write your prediction in the box below:

Run

Open and **run** the file with this code. Here's a [copy code](https://replit.com/@awade05/twinkletwinkle#main.py) (https://replit.com/@awade05/twinkletwinkle#main.py) if needed.

Was your prediction correct? Did anything unexpected happen? Write down your thoughts below:

Investigate

Questions/activities	Your answers ▽
When you execute the code (click run), what is displayed on the screen?	
Which line contains the subroutine call for **twinkle()** ?	

Why does the program not display
the rest of the nursery rhyme?

On line 5, change:

sleep(3)

to

sleep(7)

What happens when you run the
code?

Note: Make sure that you change it back to
3.

What do you think the sleep
subroutine is doing?

Remove the code from line 1 and
run the code. What happens?

Note: Make sure that you put the line of
code back in before moving on.

Modify

Activities   **Hints**▽

Add a line of code that will call the **upabove()** subroutine.	Think about the sequence of the song. Where should the subroutine be called? Run your code to test that it works as expected.
Add two new sleep function calls that will pause the program for the correct amount of time.	Perhaps sing the song in your head to get the timings right. Think carefully about where the sleep calls need to be placed. Remember the importance of indentation and brackets.
Your code is still not complete. Add one more line of code to make the entire nursery rhyme appear when the program is executed.	You will need to use one of your subroutines twice. But which one?
Test that your code works correctly.	Here are some common errors that might occur: ❏ Missing brackets ❏ Missing indentation ❏ Incorrect spelling of subroutine calls

- Pick one of your favorite songs. Find the lyrics for the song and split those lyrics into the verses and the chorus.

- Create a subroutine for each verse and the chorus.

- Add the sleep function to pause the line in the song for the correct amount of time.

- Call the subroutines in the correct order.