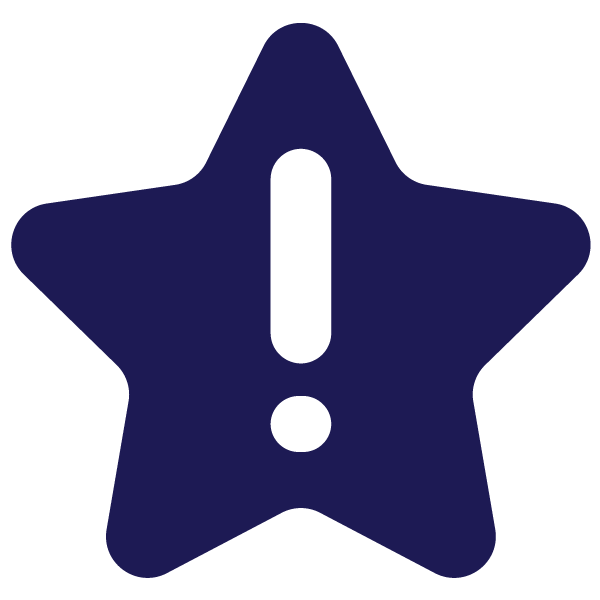
Twinkle, twinkle little sequence

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

|  |
| --- |
| The code will only execute the defined “twinkle” line of code as the twinkle on line 13 is the last line of code. |

Run .

Open and **run** the file with this code. Here’s a [copy code](https://ncce.io/ks4-twinklestart) if needed.

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

|  |
| --- |
| My prediction was correct however I wasn’t expecting the lines of code to be delayed. |

Investigate .

|  |  |
| --- | --- |
| **Questions/activities** | **Your answers** ▿ |
| When you execute the code (click run), what is displayed on the screen? | Twinkle Twinkle Little Star  How I wonder what you are |
| Which line contains the subroutine call for **twinkle()** ? | 13 |
| Why does the program not display the rest of the nursery rhyme? | Because it hasn’t had the subroutine call for upabove |
| 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. | The next line of code appears more slowly |
| What do you think the sleep subroutine is doing? | Pausing the next line of code for longer/shorter |
| 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. | The code only runs the defined Twinkle Twinkle Little Star; as the sleep code isn’t defined; the rest of the code won’t execute correctly. |

Modify .

|  |  |
| --- | --- |
| **Activities** | **Hints**▿ |
| Add a line of code that will call the **upabove()** subroutine. | from time import sleep  def twinkle():  print("Twinkle, twinkle little star")  sleep(3)  print("How I wonder what you are")  sleep(3)  def upabove():  print("Up above the world so high")  print("Like a diamond in the sky")  twinkle()  upabove() |
| Add two new sleep function calls that will pause the program for the correct amount of time. | from time import sleep  def twinkle():  print("Twinkle, twinkle little star")  sleep(3)  print("How I wonder what you are")  sleep(3)  def upabove():  print("Up above the world so high")  sleep(3)  print("Like a diamond in the sky")  sleep(3)  twinkle()  upabove() |
| Your code is still not complete. Add one more line of code to make the entire nursery rhyme appear when the program is executed. | from time import sleep  def twinkle():  print("Twinkle, twinkle little star")  sleep(3)  print("How I wonder what you are")  sleep(3)  def upabove():  print("Up above the world so high")  sleep(3)  print("Like a diamond in the sky")  sleep(3)  twinkle()  upabove()  twinkle() |
| Test that your code works correctly. | Here are some common errors that might occur:   * Missing brackets * Missing indentation * Incorrect spelling of subroutine calls |

Make .

from time import sleep

def verse1():

print("Today is gonna be the day that they're gonna throw it back to you")

sleep(4)

print("By now, you should've somehow realised what you gotta do")

sleep(4)

print("I don't believe that anybody feels the way I do about you now")

sleep(4)

print("And backbeat, the word is on the street that the fire in your heart is out")

sleep(4)

print("I'm sure you heard it all before but you never really had a doubt")

sleep(4)

print("I don't believe that anybody feels the way I do about you now")

sleep(8)

def bridge():

print("All the roads we have to walk are winding")#

sleep(3)

print("And all the lights that lead us there are blinding")

sleep(3)

print("There are many things that I would like to say to you")

print("but I don't know how")

sleep(8)

def chorus():

print("Because maybe")

sleep(3)

print("You're gonna be the one that saves me")

sleep(3)

print("And after all")

sleep(3)

print("You're my Wonderwall")

sleep(8)

def verse2():

print("Today was gonna be the day but they'll never throw it back to you")

sleep(4)

print("By now, you should've somehow realised what you're not to do")

sleep(4)

print("I don't believe that anybody feels the way I do about you now")

sleep(8)

verse1()

bridge()

chorus()

verse2()

bridge()

chorus()