



## Girls' Programming Network

# *Secret Diary Chatbot!*

### ***Part 1: Creating the Diary Chatbot***

***In this workbook, you will make a chatbot that lets you write and read the secret contents of your diary.***

***You will also add a password to keep it safe from nosy siblings or friends and lock them out if they make too many wrong guesses!***

## FOR TUTOR EYES ONLY

**This project was created by GPN Australia for  
GPN sites all around Australia!**

**This workbook and related materials were created by tutors at:**

**Sydney, Canberra and Perth**



**Girls' Programming Network**

***If you see any of the following tutors don't forget to thank them!!***

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**A massive thanks to our sponsors for supporting us!**



# Today's Project Plan:

## Secret Diary Chatbot

- 1 Welcome the user
- 2 Deal with if they want to read or write to the diary
- 3 Write secret messages to the diary
- 4 Read the contents of the diary
- 5 Add a secret password to the diary
- 6 Add a decoy password to trap tricksters

### **Once your base chatbot works add cool extensions!**

There's extensions for encrypting your data with emoji, for adding tricky maths questions to protect from little siblings, and ways to make your chatbot sassier!

# Part 1: Who are you?



Part 1	
<i># Imports go here</i>	1.1: Welcome the user
<code>import time</code>	Bonus 1.5: Wait a second!
<i># Main code goes here</i>	1.1: Welcome the user
<code>print("Welcome to the Secret Diary Chatbot!")</code>	
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>name = input("What is your name? ")</code>	1.2: Identify yourself!
<code>print("Hello" + name)</code>	1.3: Personalised Welcome
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!

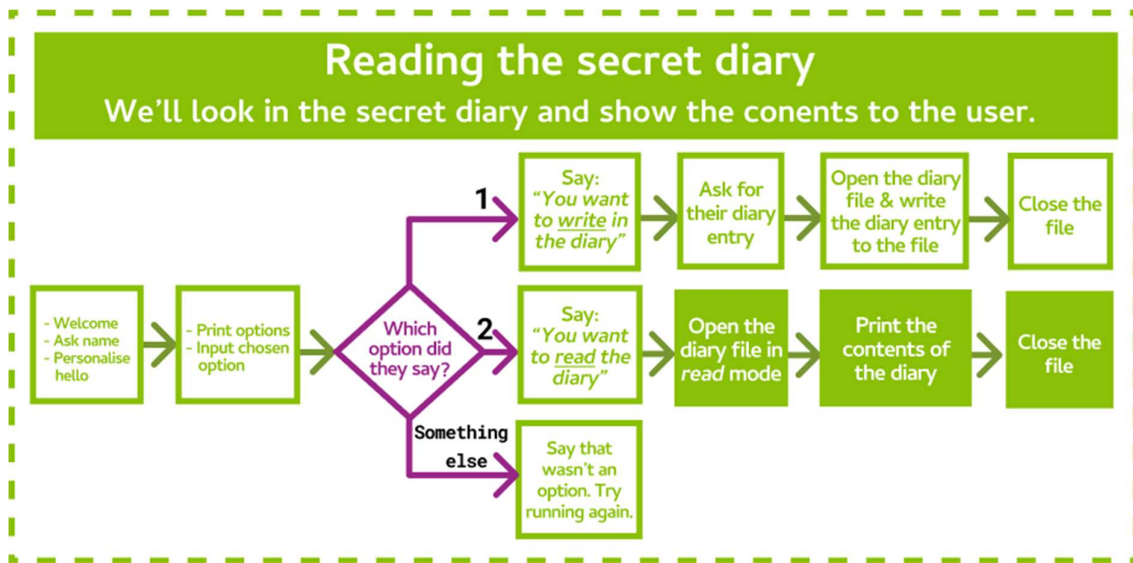
## Part 2: What do you want to do?

Part 2	
<i># Imports go here</i>	1.1: Welcome the user
<i>import time</i>	Bonus 1.5: Wait a second!
<i># Main code goes here</i> print("Welcome to the Secret Diary Chatbot!")	1.1: Welcome the user
time.sleep(0.5)	Bonus 1.5: Wait a second!
name = input("What is your name? ")	1.2: Identify yourself!
print("Hello" + name)	1.3: Personalised Welcome
time.sleep(0.5)	Bonus 1.5: Wait a second!
<pre>         action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """) </pre>	2.1: Welcome to the Secret Diary
<pre> if action == "1":     print("You want to write in the diary") </pre>	2.2: Do you want to write?
<pre> elif action == "2":     print("You want to read the diary") </pre>	2.3 Do you want to read?
<pre> else:     print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read") </pre>	2.4: I don't understand!

## Part 3: Writing in the Diary

Part 3	
<code># Imports go here</code>	1.1: Welcome the user
<code>import time</code>	Bonus 1.5: Wait a second!
<code># Main code goes here</code> <code>print("Welcome to the Secret Diary Chatbot!")</code>	1.1: Welcome the user
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>name = input("What is your name? ")</code>	1.2: Identify yourself!
<code>print("Hello" + name)</code>	1.3: Personalised Welcome
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>    action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """)</code>	2.1: Welcome to the Secret Diary
<code>if action == "1":</code> <code>    print("You want to write in the diary")</code>	2.2: Do you want to write?
<code>    diary_entry = input("what is your message? ")</code>	3.1 Tell me your secret
<code>    diary = open("secret_diary.txt", "a")</code>	3.2: Open the diary!
<code>    diary_entry = diary_entry + "\n"</code> <code>    diary.write(diary_entry)</code>	3.3: Writing our secrets!
<code>    diary.close() #text won't be written to file     without this line</code>	3.4: Close the diary!
<code>elif action == "2":</code> <code>    print("You want to read the diary")</code>	2.3 Do you want to read?
<code>else:</code> <code>    print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read")</code>	2.4: I don't understand!

## Part 4: Reading the Diary



Part 4	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
# Main code goes here	1.1: Welcome the user
print("Welcome to the Secret Diary Chatbot!")	
time.sleep(0.5)	Bonus 1.5: Wait a second!
name = input("What is your name? ")	1.2: Identify yourself!
print("Hello" + name)	1.3: Personalised Welcome
time.sleep(0.5)	Bonus 1.5: Wait a second!
<pre>         action = input("""What would you like to do?         1) read the diary         2) write into the diary         3) end the program """)       </pre>	2.1: Welcome to the Secret Diary
<pre> if action == "1":     print("You want to write in the diary")       </pre>	2.2: Do you want to write?
diary_entry = input("what is your message? ")	3.1 Tell me your secret
diary = open("secret_diary.txt", "a")	3.2: Open the diary!

<pre>diary_entry = diary_entry + "\n" diary.write(diary_entry)</pre>	3.3: Writing our secrets!
<pre>diary.close() #text won't be written to file without this line</pre>	3.4: Close the diary!
<pre>elif action == "2":     print("You want to read the diary")</pre>	2.3 Do you want to read?
<pre>diary = open("secret_diary.txt", "r")</pre>	4.1: Open the diary!
<pre>content = diary.read() print(content)</pre>	4.2: Read the diary!
<pre>diary.close()</pre>	4.3: Close the diary!
<pre>else:     print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read")</pre>	2.4: I don't understand!



# Part 5: It's a SECRET Diary!

Part 5	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
password = "open_sesame" access_type = None	5.1: Let's make a password
# Main code goes here print("Welcome to the Secret Diary Chatbot!")	1.1: Welcome the user
time.sleep(0.5)	Bonus 1.5: Wait a second!
name = input("What is your name? ")	1.2: Identify yourself!
print("Hello" + name)	1.3: Personalised Welcome
guessed_password = input("What's the password? ")	5.2: What's the password?
wrong = 0	5.4: Too Many Guesses
while access_type == None: if guessed_password == password: access_type = "allowed" else: guessed_password = input("What's the password? ")	5.3: Guessing Game
wrong = wrong + 1	5.4: Too Many Guesses
^^ This replaces the loop above while access_type == None: if wrong == 3: access_type = "denied" print("Too many guesses!") if guessed_password == password: access_type = "allowed" else: wrong = wrong + 1 guessed_password = input("What's the password? ")	5.5: Locking your diary
time.sleep(0.5)	Bonus 1.5: Wait a second!

<pre> if access_type == "allowed": #NOTE: everything below must be indented </pre>	5.6: Different access
<pre>     action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """) </pre>	2.1: Welcome to the Secret Diary
<pre>     if action == "1":         print("You want to write in the diary") </pre>	2.2: Do you want to write?
<pre>         diary_entry = input("what is your message? ") </pre>	3.1 Tell me your secret
<pre>         diary = open("secret_diary.txt", "a") </pre>	3.2: Open the diary!
<pre>         diary_entry = diary_entry + "\n"         diary.write(diary_entry) </pre>	3.3: Writing our secrets!
<pre>         diary.close() </pre>	3.4: Close the diary!
<pre>     elif action == "2":         print("You want to read the diary") </pre>	2.3 Do you want to read?
<pre>         diary = open("secret_diary.txt", "r") </pre>	4.1: Open the diary!
<pre>         content = diary.read()         print(content) </pre>	4.2: Read the diary!
<pre>         diary.close() </pre>	4.3: Close the diary!
<pre>     else:         print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read") </pre>	2.4: I don't understand!
<pre> elif access_type == "denied":     print("No access for you!") </pre>	5.6: Different access

# Part 6: It's a trap!

Part 6	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
password = "open_sesame" access_type = None	5.1: Let's make a password
decoy_password = "abc123"	6.1: Decoy Password
# Main code goes here print("Welcome to the Secret Diary Chatbot!")	1.1: Welcome the user
time.sleep(0.5)	Bonus 1.5: Wait a second!
name = input("What is your name? ")	1.2: Identify yourself!
print("Hello" + name)	1.3: Personalised Welcome
guessed_password = input("What's the password? ")	5.2: What's the password?
wrong = 0	5.4: Too Many Guesses
while access_type == None: if wrong == 3: access_type = "denied" print("Too many guesses!") if guessed_password == password: access_type = "allowed"	5.5: Locking your diary
elif guessed_password == decoy_password: access_type = "decoy" break	6.2: Let them through!
else: wrong = wrong + 1 guessed_password = input("What's the password? ")	5.5: Locking your diary
time.sleep(0.5)	Bonus 1.5: Wait a second!
if access_type == "allowed": #NOTE: everything below must be indented	5.6: Different access

<pre>         action = input("What would you like to do? 1) read the diary 2) write into the diary 3) end the program ") </pre>	2.1: Welcome to the Secret Diary
<pre> if action == "1":     print("You want to write in the diary") </pre>	2.2: Do you want to write?
<pre>         diary_entry = input("what is your message? ") </pre>	3.1 Tell me your secret
<pre>         diary = open("secret_diary.txt", "a") </pre>	3.2: Open the diary!
<pre>         diary_entry = diary_entry + "\n"         diary.write(diary_entry) </pre>	3.3: Writing our secrets!
<pre>         diary.close() </pre>	3.4: Close the diary!
<pre> elif action == "2":     print("You want to read the diary") </pre>	2.3 Do you want to read?
<pre>         diary = open("secret_diary.txt", "r") </pre>	4.1: Open the diary!
<pre>         content = diary.read()         print(content) </pre>	4.2: Read the diary!
<pre>         diary.close() </pre>	4.3: Close the diary!
<pre> else:     print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read") </pre>	2.4: I don't understand!
<pre> elif access_type == "decoy":     print("The secret is I like pie") </pre>	6.3: Fake News!
<pre> elif access_type == "denied":     print("No access for you!") </pre>	5.6: Different access

# Extension 8: Intelligent Checks!

Extension 8	
<i># Imports go here</i>	1.1: Welcome the user
<code>import time</code>	Bonus 1.5: Wait a second!
<code>password = "open_sesame"</code> <code>access_type = None</code>	5.1: Let's make a password
<i># Main code goes here</i> <code>print("Welcome to the Secret Diary Chatbot!")</code>	1.1: Welcome the user
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>name = input("What is your name? ")</code>	1.2: Identify yourself!
<code>print("Hello" + name)</code>	1.3: Personalised Welcome
<code>guessed_password = input("What's the password? ")</code>	5.2: What's the password?
<code>wrong = 0</code>	5.4: Too Many Guesses
<code>while access_type == None:</code> <code>if wrong == 3:</code> <code>access_type = "denied"</code> <code>print("Too many guesses!")</code> <code>if guessed_password == password:</code> <code>access_type = "allowed"</code> <code>else:</code> <code>wrong = wrong + 1</code> <code>guessed_password = input("What's the password? ")</code>	5.5: Locking your diary
<code>answer = input("What's 2 + 2")</code>	8.1: You're so smart!
<code>if answer != 4:</code> <code>print("You're not smart enough to look at the secret diary!")</code> <code>exit()</code>	8.2: Or are you?
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>if access_type == "allowed":</code> <b>#NOTE: everything below must be indented</b>	5.6: Different access

<pre>         action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """) </pre>	2.1: Welcome to the Secret Diary
<pre> if action == "1":     print("You want to write in the diary") </pre>	2.2: Do you want to write?
<pre>         diary_entry = input("what is your message? ") </pre>	3.1 Tell me your secret
<pre>         diary = open("secret_diary.txt", "a") </pre>	3.2: Open the diary!
<pre>         diary_entry = diary_entry + "\n"         diary.write(diary_entry) </pre>	3.3: Writing our secrets!
<pre>         diary.close() </pre>	3.4: Close the diary!
<pre> elif action == "2":     print("You want to read the diary") </pre>	2.3 Do you want to read?
<pre>         diary = open("secret_diary.txt", "r") </pre>	4.1: Open the diary!
<pre>         content = diary.read()         print(content) </pre>	4.2: Read the diary!
<pre>         diary.close() </pre>	4.3: Close the diary!
<pre> else:     print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read") </pre>	2.4: I don't understand!
<pre> elif access_type == "denied":     print("No access for you!") </pre>	5.6: Different access

# Extension 9: Random Maths questions!

Extension 9	
<i># Imports go here</i>	1.1: Welcome the user
<code>import time</code>	Bonus 1.5: Wait a second!
<code>import random</code>	9.1: That's so random!
<code>password = "open_sesame"</code> <code>access_type = None</code>	5.1: Let's make a password
<code>decoy_password = "abc123"</code>	6.1: Decoy Password
<code>num1 = random.randint(1,10)</code> <code>num2 = random.randint(1,10)</code> <code>answer = num1 + num2</code>	9.2: Number Generator
<code>question = f"What is the sum of {num1} and {num2}? "</code>	9.3: Question Creation
<i># Main code goes here</i> <code>print("Welcome to the Secret Diary Chatbot!")</code>	1.1: Welcome the user
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>name = input("What is your name? ")</code>	1.2: Identify yourself!
<code>print("Hello" + name)</code>	1.3: Personalised Welcome
<code>guessed_password = input("What's the password? ")</code>	5.2: What's the password?
<code>wrong = 0</code>	5.4: Too Many Guesses
<code>while access_type == None:</code> <code>if wrong == 3:</code> <code>access_type = "denied"</code> <code>print("Too many guesses!")</code> <code>if guessed_password == password:</code> <code>access_type = "allowed"</code>	5.5: Locking your diary
<code>user_answer = int(input(question))</code>	9.3: Question Creation
<code>if user_answer == answer:</code> <code>access_type = "allowed"</code> <code>print("that is correct")</code>	9.4: Am I right?

<code>else:</code> <code>access_type = "denied"</code>	
<code>elif guessed_password == decoy_password:</code> <code>access_type = "decoy"</code> <code>break</code>	6.2: Let them through!
<code>else:</code> <code>wrong = wrong + 1</code> <code>guessed_password = input("What's the password? ")</code>	5.5: Locking your diary
<code>answer = input("What's 2 + 2")</code>	8.1: You're so smart!
<code>if answer != 4:</code> <code>print("You're not smart enough to look at the secret diary!")</code> <code>exit()</code>	8.2: Or are you?
<code>time.sleep(0.5)</code>	Bonus 1.5: Wait a second!
<code>if access_type == "allowed":</code> #NOTE: everything below must be indented	5.6: Different access
<code>action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """)</code>	2.1: Welcome to the Secret Diary
<code>if action == "1":</code> <code>print("You want to write in the diary")</code>	2.2: Do you want to write?
<code>diary_entry = input("what is your message? ")</code>	3.1 Tell me your secret
<code>diary = open("secret_diary.txt", "a")</code>	3.2: Open the diary!
<code>diary_entry = diary_entry + "\n"</code> <code>diary.write(diary_entry)</code>	3.3: Writing our secrets!
<code>diary.close()</code>	3.4: Close the diary!
<code>elif action == "2":</code> <code>print("You want to read the diary")</code>	2.3 Do you want to read?
<code>diary = open("secret_diary.txt", "r")</code>	4.1: Open the diary!



<code>content = diary.read()</code> <code>print(content)</code>	4.2: Read the diary!
<code>diary.close()</code>	4.3: Close the diary!
<code>else:</code> <code>print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read")</code>	2.4: I don't understand!
<code>elif access_type == "decoy":</code> <code>print("The secret is I like pie")</code>	6.3: Fake News!
<code>elif access_type == "denied":</code> <code>print("No access for you!")</code>	5.6: Different access

# Extensions 10: Make it Funnier!

Extension 10	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
import random answers = ["Yes", "No", "Maybe"]	10.2: Magic 8 Ball
password = "open_sesame" access_type = None	5.1: Let's make a password
decoy_password = "abc123"	6.1: Decoy Password
# Main code goes here print("Welcome to the Secret Diary Chatbot!")	1.1: Welcome the user
time.sleep(0.5)	Bonus 1.5: Wait a second!
name = input("What is your name? ")	1.2: Identify yourself!
print("Hello" + name)	1.3: Personalised Welcome
guessed_password = input("What's the password? ")	5.2: What's the password?
wrong = 0	5.4: Too Many Guesses
while access_type == None: if wrong == 3: access_type = "denied" print("Too many guesses!") if guessed_password == password: access_type = "allowed"	5.5: Locking your diary
elif guessed_password == decoy_password: while True: input("Ask the magic 8 ball for advice. Enter a question: ") print(random.choice(answers))	10.2: Magic 8 Ball
else: wrong = wrong + 1 guessed_password = input("What's the password? ")	5.5: Locking your diary

<code>time.sleep(0.5)</code>	<b>Bonus 1.5: Wait a second!</b>
<code>if access_type == "allowed":</code> <b>#NOTE: everything below must be indented</b>	<b>5.6: Different access</b>
<code>    action = input("What would you like to do?</code> 1) read the diary 2) write into the diary 3) end the program <code>")</code>	<b>2.1: Welcome to the Secret Diary</b>
<code>if action == "1":</code> <code>print("You want to write in the diary")</code>	<b>2.2: Do you want to write?</b>
<code>diary_entry = input("what is your message? ")</code>	<b>3.1 Tell me your secret</b>
<code>diary = open("secret_diary.txt", "a")</code>	<b>3.2: Open the diary!</b>
<code>diary_entry = diary_entry + "\n"</code> <code>diary.write(diary_entry)</code>	<b>3.3: Writing our secrets!</b>
<code>diary.close()</code>	<b>3.4: Close the diary!</b>
<code>elif action == "2":</code> <code>print("You want to read the diary")</code>	<b>2.3 Do you want to read?</b>
<code>diary = open("secret_diary.txt", "r")</code>	<b>4.1: Open the diary!</b>
<code>content = diary.read()</code> <code>print(content)</code>	<b>4.2: Read the diary!</b>
<code>diary.close()</code>	<b>4.3: Close the diary!</b>
<code>else:</code> <code>print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read")</code>	<b>2.4: I don't understand!</b>
<code>elif access_type == "decoy":</code> <code>print("The secret is I like pie")</code>	<b>6.3: Fake News!</b>
<code>elif access_type == "denied":</code> <code>print("No access for you!")</code>	<b>5.6: Different access</b>

# Extension 11: Emojifying Functions

Right now our diary is protected from snoops when they use the chatbot, because they need the password. **But what if someone just goes and opens the text file and reads it!**  
We'll make our words unreadable by encoding them with emoji!

Part 5	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
def emojify(msg): msg = msg.replace("a", "🍌") msg = msg.replace("b", "🍌") return msg	11.1: Emoji-fy function
def demojify(content) content = content.replace("🍌", "a") content = content.replace("🍌", "b") return content	11.3: De-emojiify function
password = "open_sesame" access_type = None	5.1: Let's make a password
# Main code goes here print("Welcome to the Secret Diary Chatbot!")	1.1: Welcome the user
time.sleep(0.5)	Bonus 1.5: Wait a second!
name = input("What is your name? ")	1.2: Identify yourself!
print("Hello" + name)	1.3: Personalised Welcome
guessed_password = input("What's the password? ")	5.2: What's the password?
wrong = 0	5.4: Too Many Guesses
while access_type == None: if wrong == 3: access_type = "denied" print("Too many guesses!") if guessed_password == password: access_type = "allowed" else: wrong = wrong + 1 guessed_password = input("What's the password? ")	5.5: Locking your diary

<code>time.sleep(0.5)</code>	<b>Bonus 1.5: Wait a second!</b>
<code>if access_type == "allowed":</code> <b>#NOTE: everything below must be indented</b>	<b>5.6: Different access</b>
<code>    action = input("What would you like to do? 1) read the diary 2) write into the diary 3) end the program ")</code>	<b>2.1: Welcome to the Secret Diary</b>
<code>    if action == "1":</code> <code>        print("You want to write in the diary")</code>	<b>2.2: Do you want to write?</b>
<code>        diary_entry = input("what is your message? ")</code>	<b>3.1 Tell me your secret</b>
<code>        diary = open("secret_diary.txt", "a", encoding="utf-8")</code> <code>        diary_entry = emojiify(diary_entry)</code>	<b>11.2: Emoji-fying your diary!</b>
<code>        diary_entry = diary_entry + "\n"</code> <code>        diary.write(diary_entry)</code>	<b>3.3: Writing our secrets!</b>
<code>        diary.close()</code>	<b>3.4: Close the diary!</b>
<code>    elif action == "2":</code> <code>        print("You want to read the diary")</code>	<b>2.3 Do you want to read?</b>
<code>        diary = open("secret_diary.txt", "r", encoding="utf-8")</code> <code>        content = diary.read()</code> <code>        content = demojify(content)</code>	<b>11.4: De-emojifying your diary!</b>
<code>        diary.close()</code>	<b>4.3: Close the diary!</b>
<code>    else:</code> <code>        print("I don't know what you want to do! Run the program again and say either 1 to write or 2 to read")</code>	<b>2.4: I don't understand!</b>
<code>elif access_type == "denied":</code> <code>    print("No access for you!")</code>	<b>5.6: Different access</b>