



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!!

Writers

Amanda Hogan
Isabella Hogan
Renee Noble
Molly Menzies

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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?

Personal welcomes are the best!

Welcome the user, ask for their name and say hello!



Part 1

Imports go here

import time

Main code goes here

```
print("Welcome to the Secret Diary Chatbot!")
```

```
time.sleep(0.5)
```

```
name = input("What is your name? ")
```

```
print("Hello" + name)
```

```
time.sleep(0.5)
```

1.1: Welcome the user

Bonus 1.5: Wait a second!

1.1: Welcome the user

Bonus 1.5: Wait a second!

1.2: Identify yourself!

1.3: Personalised Welcome

Bonus 1.5: Wait a second!

Part 2: What do you want to do?

Part 2	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
# 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
time.sleep(0.5)	Bonus 1.5: Wait a second!
action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """)	2.1: Welcome to the Secret Diary
if action == "1": print("You want to write in the diary")	2.2: Do you want to write?
elif action == "2": print("You want to read the diary")	2.3 Do you want to read?
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")	2.4: I don't understand!

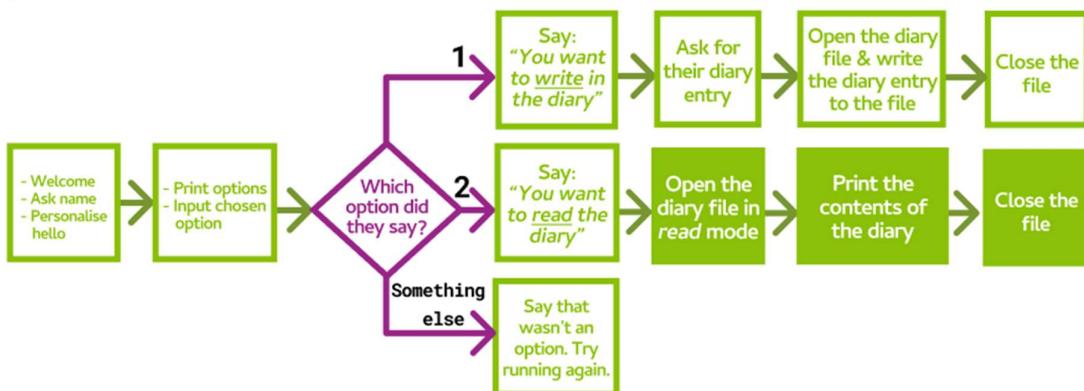
Part 3: Writing in the Diary

Part 3	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
# 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
time.sleep(0.5)	Bonus 1.5: Wait a second!
action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """)	2.1: Welcome to the Secret Diary
if action == "1": print("You want to write in the diary")	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!
diary_entry = diary_entry + "\n" diary.write(diary_entry)	3.3: Writing our secrets!
diary.close() #text won't be written to file without this line	3.4: Close the diary!
elif action == "2": print("You want to read the diary")	2.3 Do you want to read?
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")	2.4: I don't understand!

Part 4: Reading the Diary

Reading the secret diary

We'll look in the secret diary and show the contents to the user.



Part 4

# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
# 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
time.sleep(0.5)	Bonus 1.5: Wait a second!
action = input("""What would you like to do? 1) read the diary 2) write into the diary 3) end the program """)	2.1: Welcome to the Secret Diary
if action == "1": print("You want to write in the diary")	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!

```

diary_entry = diary_entry + "\n"
diary.write(diary_entry)

diary.close() #text won't be written to file
without this line

elif action == "2":
    print("You want to read the diary")

diary = open("secret_diary.txt", "r")

content = diary.read()
print(content)

diary.close()

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")

```

3.3: Writing our secrets!

3.4: Close the diary!

2.3 Do you want to read?

4.1: Open the diary!

4.2: Read the diary!

4.3: Close the diary!

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? ") print("Hello" + name)	1.2: Identify yourself! 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>	<p>2.1: Welcome to the Secret Diary</p>
<pre> if action == "1": print("You want to write in the diary")</pre>	<p>2.2: Do you want to write?</p>
<pre> diary_entry = input("what is your message? ")</pre>	<p>3.1 Tell me your secret</p>
<pre> diary = open("secret_diary.txt", "a")</pre>	<p>3.2: Open the diary!</p>
<pre> diary_entry = diary_entry + "\n" diary.write(diary_entry)</pre>	<p>3.3: Writing our secrets!</p>
<pre> diary.close()</pre>	<p>3.4: Close the diary!</p>
<pre> elif action == "2": print("You want to read the diary")</pre>	<p>2.3 Do you want to read?</p>
<pre> diary = open("secret_diary.txt", "r") content = diary.read() print(content)</pre>	<p>4.1: Open the diary!</p> <p>4.2: Read the diary!</p>
<pre> diary.close()</pre>	<p>4.3: Close the diary!</p>
<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>	<p>2.4: I don't understand!</p>
<pre> elif access_type == "decoy": print("The secret is I like pie")</pre>	<p>6.3: Fake News!</p>
<pre> elif access_type == "denied": print("No access for you!")</pre>	<p>5.6: Different access</p>

Extension 8: Intelligent Checks!

Extension 8	
# 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 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
answer = input("What's 2 + 2")	8.1: You're so smart!
if answer != 4: print("You're not smart enough to look at the secret diary!") exit()	8.2: Or are you?
time.sleep(0.5)	Bonus 1.5: Wait a second!
if access_type == "allowed": #NOTE: everything below must be indented	5.6: Different access

```
action = input("""What would you like to do?  
1) read the diary  
2) write into the diary  
3) end the program """)
```

2.1: Welcome to the Secret Diary

```
if action == "1":  
    print("You want to write in the diary")
```

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!

```
diary_entry = diary_entry + "\n"  
diary.write(diary_entry)
```

3.3: Writing our secrets!

```
diary.close()
```

3.4: Close the diary!

```
elif action == "2":  
    print("You want to read the diary")
```

2.3 Do you want to read?

```
diary = open("secret_diary.txt", "r")
```

4.1: Open the diary!

```
content = diary.read()  
print(content)
```

4.2: Read the diary!

```
diary.close()
```

4.3: Close the diary!

```
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")
```

2.4: I don't understand!

```
elif access_type == "denied":  
    print("No access for you!")
```

5.6: Different access

Extension 9: Random Maths questions!

Extension 9	
# Imports go here	1.1: Welcome the user
import time	Bonus 1.5: Wait a second!
import random	9.1: That's so random!
password = "open_sesame" access_type = None	5.1: Let's make a password
decoy_password = "abc123"	6.1: Decoy Password
num1 = random.randint(1,10) num2 = random.randint(1,10) answer = num1 + num2	9.2: Number Generator
question = f"What is the sum of {num1} and {num2}? "	9.3: Question Creation
# 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
user_answer = int(input(question))	9.3: Question Creation
if user_answer == answer: access_type = "allowed" print("that is correct")	9.4: Am I right?

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

<pre>content = diary.read() print(content) diary.close() 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>	4.2: Read the diary!
<pre>elif access_type == "decoy": print("The secret is I like pie")</pre>	4.3: Close the diary!
<pre>elif access_type == "denied": print("No access for you!")</pre>	2.4: I don't understand!
	6.3: Fake News!
	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

time.sleep(0.5)	Bonus 1.5: Wait a second!
#NOTE: everything below must be indented	5.6: Different access
<pre>if access_type == "allowed": 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 11: Emojify Function

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-emojify 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

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", encoding="utf-8") diary_entry = emojify(diary_entry)</pre>	11.2: Emoji-fying your 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", encoding="utf-8") content = diary.read() content = demojify(content)</pre>	11.4: De-emojifying your 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