Girls' Programming Network

Chatbot!

Tutors 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!

ATLASSIAN

Part 0: Reading The Solutions

Each part will have its final code solution in full, with the line specific to each subsection clearly notated.
Bonus Tasks are purple, main tasks are blue, lines that are completely replaced are indicated by a orange line

Part 1: Who are you?

`# Imports go here`	1.1: Welcome the user
`import time`	Bonus 1.5: Wait a second!

`# Read functions go here`
 	
`# Write functions go here`
 	
`# 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!
`time.sleep(0.5)`	Bonus 1.5: Wait a second!

`exit = False`
`while not exit:`
`    action = input("""What would you like to do?`
`1) read the diary`
`2) write into the diary`
`3) end the program """)`
	1.3: First action

`    if action == "1":` `        print("read")`	1.4: Completing the menu
`        time.sleep(0.5)`	Bonus 1.5: Wait a second!
`    elif action == "2":` `        print("write")`	1.4: Completing the menu
`        time.sleep(0.5)`	Bonus 1.5: Wait a second!

`    elif action == "3":`
`        print("Ok goodbye :(")`
`        exit = True`
`    else:`
`        print("I'm sorry I don't know what you want me to do.")`
	1.4: Completing the menu

`        time.sleep(0.5)`	Bonus 1.5: Wait a second!

Part 2: Writing in the Diary

`# Imports go here`
 	
`# Read functions go here`
 	
`# Write functions go here`	

`def write_to_diary():`
`    with open("diary.txt","w") as f:`
`        for key in diary:`
`            f.write(key+"\n")`
`            f.write(diary[key]+"\n")`
`            f.write("-------\n")`
	2.1: Writing to the diary

`def write():`
`    global diary`
`    current = []`
`    entry_date = input("What date is the entry for? ")`
`    if entry_date in diary:`
`        print("That date already exists")`
	2.2: Writing what the user wants

`^^replace last line of code`
`        add = input("That date is already in the diary. Would you like to add to it? (yes/no) ")`
`        if add == "yes":`
`            current.append(diary[entry_date])`
`        else:`
`            print("Ok. I'll transfer you back to the main menu...")`
`            return`
	2.3: Do you want to add to your entry?

`    entry = input("What would you like to add to the entry? ")`
`    while entry:`
`        current.append(entry)`
`        entry = input("")`
`    diary[entry_date] = "\n".join(current)`
`    write_to_diary()`
	2.4: Getting a new entry

`# Main code goes here`	
`diary = {}`	2.1: Writing to the diary

```
print("Welcome to the Secret Diary Chatbot!")
name = input("What is your name? ")
print("Hello", name)
exit = False
while not exit:
    action = input("""What would you like to do?
1) read the diary
2) write into the diary
3) end the program """)
    if action == "1":
        print("read")
    elif action == "2":
        print("write")
```

```
^^replace last line of code
        write()
```

2.3: Do you want to add to your entry?

```
    elif action == "3":
        print("Ok goodbye :(")
        exit = True
    else:
        print("I'm sorry I don't know what you want me to
do.")
```

Part 3: Reading the diary

`# Imports go here`
 	
`# Read functions go here`	

`def open_diary():`
`    global diary`
`    current_entry = []`
`    with open("diary.txt","r") as f:`
`        for line in f:`
`            line = line.strip()`
`            print(line)`
	3.1: Opening the file

`^^replace last line of code`
`            if line != "-------":`
`                current_entry.append(line)`
`            else:`
`                date = current_entry.pop(0)`
`                full_entry = "\n".join(current_entry)`
`                diary[date] = full_entry`
`                current_entry = []`
	3.2: Dates and entries

`def read():`
`    action_read = input("""What would you like to read`
`1) The whole diary`
`2) A specific entry`
`3) An entry from a specific date """)`
`    if action_read == "1":`
`        print("All")`
`    elif action_read == "2":`
`        print("Number")`
`    elif action_read == "3":`
`        print("Date")`
`    else:`
`        print("I didn't understand")`
	3.3: What do you want to read?

`# Write functions go here`
`def write_to_diary():`
`    with open("diary.txt","w") as f:`
`        for key in diary:`
`            f.write(key+"\n")`
`            f.write(diary[key]+"\n")`
`            f.write("-------\n")`	

```
def write():
    global diary
    current = []
    entry_date = input("What date is the entry for? ")
    if entry_date in diary:
        add = input("That date is already in the diary. Would
you like to add to it? (yes/no) ")
        if add == "yes":
            current.append(diary[entry_date])
        else:
            print("Ok. I'll transfer you back to the main
menu...")
            return
    entry = input("What would you like to add to the entry? ")
    while entry:
        current.append(entry)
        entry = input("")
    diary[entry_date] = "\n".join(current)
    write_to_diary()

# Main code goes here
diary = {}

print("Welcome to the Secret Diary Chatbot!")
name = input("What is your name? ")
print("Hello", name)
exit = False
while not exit:
    action = input("""What would you like to do?
1) read the diary
2) write into the diary
3) end the program """)
    if action == "1":
        print("read")
```

```
^^replace last line of code
        read()
```

3.3: What do you want to read?

```
    elif action == "2":
        write()
    elif action == "3":
        print("Ok goodbye :(")
        exit = True
    else:
        print("I'm sorry I don't know what you want me to
do.")
```

Part 4: Reading the diary pt.2

```
# Imports go here

# Read functions go here
def open_diary():
    global diary
    current_entry = []
    with open("diary.txt","r") as f:
        for line in f:
            line = line.strip()
            if line != "-------":
                current_entry.append(line)
            else:
                date = current_entry.pop(0)
                full_entry = "\n".join(current_entry)
                diary[date] = full_entry
                current_entry = []
def read():
    action_read = input("""What would you like to read
1) The whole diary
2) A specific entry
3) An entry from a specific date """)
    if action_read == "1":
        print("All")
```

```
^^replace last line of code
        print("Ok! here is your whole diary")
        for key in diary:
            print("Here is your entry from",key)
            print(diary[key])
            print("--------------------")
            print()
```

4.1: Reading all of the diary!

```
    elif action_read == "2":
        print("Number")
```

```
^^replace last line of code
        number = int(input("What number entry do you want
to read? "))
        if number <= len(diary.keys()):
            print("Here is entry number",number)
            num_to_date = list(diary.keys())[number-1]
            print(diary[num_to_date])
        else:
            print("There are not that many entries in the
```

4.2: Reading the nth entry

```
diary")
```

```
    elif action_read == "3":
        print("Date")
```

```
^^replace last line of code
        date = input("What is the date of the entry you
would like to read (dd/mm/yyyy)? ")
        if date in diary:
            print("Here is your entry from",date)
            print(diary[date])
        else:
            print("There is not an entry for that date
sorry")
```

4.3: Reading the entry from a date

```
    else:
        print("I didn't understand")

# Write functions go here
def write_to_diary():
    with open("diary.txt","w") as f:
        for key in diary:
            f.write(key+"\n")
            f.write(diary[key]+"\n")
            f.write("-------\n")

def write():
    global diary
    current = []
    entry_date = input("What date is the entry for? ")
    if entry_date in diary:
        add = input("That date is already in the diary.
Would you like to add to it? (yes/no) ")
        if add == "yes":
            current.append(diary[entry_date])
        else:
            print("Ok. I'll transfer you back to the main
menu...")
            return
    entry = input("What would you like to add to the
entry? ")
    while entry:
        current.append(entry)
        entry = input("")
    diary[entry_date] = "\n".join(current)
    write_to_diary()
```

```
# Main code goes here

diary = {}

print("Welcome to the Secret Diary Chatbot!")
name = input("What is your name? ")
print("Hello", name)
exit = False
while not exit:
    action = input("""What would you like to do?
1) read the diary
2) write into the diary
3) end the program """)
    if action == "1":
        read()
    elif action == "2":
        write()
    elif action == "3":
        print("Ok goodbye :(")
        exit = True
    else:
        print("I'm sorry I don't know what you want me to
do.")
```

Part 5: It's a SECRET diary!

```
# Imports go here

# Read functions go here
def open_diary():
    global diary
    current_entry = []
    with open("diary.txt","r") as f:
        for line in f:
            line = line.strip()
            if line != "-------":
                current_entry.append(line)
            else:
                date = current_entry.pop(0)
                full_entry = "\n".join(current_entry)
                diary[date] = full_entry
                current_entry = []
def read():
```

```
    if access == "Decoy":
        print("Ok! here is your whole diary")
        return
```

5.6: Implementing the decoy

```
    action_read = input("""What would you like to read
1) The whole diary
2) A specific entry
3) An entry from a specific date """)
    if action_read == "1":
        print("Ok! here is your whole diary")
        for key in diary:
            print("Here is your entry from",key)
            print(diary[key])
            print("--------------------")
            print()
    elif action_read == "2":
        number = int(input("What number entry do you
want to read? "))
        if number <= len(diary.keys()):
            print("Here is entry number",number)
            num_to_date = list(diary.keys())[number-1]
            print(diary[num_to_date])
        else:
            print("There are not that many entries in
the diary")
```

```
    elif action_read == "3":
        date = input("What is the date of the entry you
would like to read (dd/mm/yyyy)? ")
        if date in diary:
            print("Here is your entry from",date)
            print(diary[date])
        else:
            print("There is not an entry for that date
sorry")
    else:
        print("I didn't understand")

# Write functions go here
def write_to_diary():
    with open("diary.txt","w") as f:
        for key in diary:
            f.write(key+"\n")
            f.write(diary[key]+"\n")
            f.write("-------\n")

def write():
    global diary
    current = []
    entry_date = input("What date is the entry for? ")
    if entry_date in diary:
```

```
^^replace last line of code
    if entry_date in diary and access == "Full":
```

5.6: Implementing the decoy

```
        add = input("That date is already in the diary.
Would you like to add to it? (yes/no) ")
        if add == "yes":
            current.append(diary[entry_date])
        else:
            print("Ok. I'll transfer you back to the
main menu...")
            return
    entry = input("What would you like to add to the
entry? ")
    while entry:
        current.append(entry)
        entry = input("")
```

```
    if access == "Full":
vv indent the following two lines of code
```

5.6: Implementing the decoy

```
    diary[entry_date] = "\n".join(current)
```

`    write_to_diary()`
 	
`# Main code goes here`	

`password = "Tutors rock!"` `access = None`	**5.1: Welcome to the Secret Diary**
`decoy = "password123"`	**5.5: Different access**

`diary = {}`
 	
`print("Welcome to the Secret Diary Chatbot!")`
`name = input("What is your name? ")`
`print("Hello", name)`
`exit = False`	

`guesses = 0`
`while access is None and guesses < 3:`
`    guess = input("What is the password? ")`
`    guesses += 1`
	5.2: What's the password?

`    if guess == password:` `        access = "Full"`	**5.3: Guessing Game**
`    elif guess == decoy:` `        access = "Decoy"`	**5.5: Different access**
`    else:` `        print("That password was incorrect!")`	**5.3: Guessing Game**

`if guess is None:`
`    print("You are not my owner GO AWAY >:(")`
`    exit = True`
	5.4: Too many guesses

`while not exit:`
`    action = input("""What would you like to do?`
`1) read the diary`
`2) write into the diary`
`3) end the program """)`
`    if action == "1":`
`       read()`
`    elif action == "2":`
`       write()`
`    elif action == "3":`
`       print("Ok goodbye :(")`
`       exit = True`
`    else:`
`      print("I'm sorry I don't know what you want me to do.")`	

Part 6: Regex it up!

```
# Imports go here
import re

# Read functions go here
def open_diary():
    global diary
    current_entry = []
    with open("diary.txt","r") as f:
        for line in f:
            line = line.strip()
            if line != "-------":
                current_entry.append(line)
            else:
                date = current_entry.pop(0)
                full_entry = "\n".join(current_entry)
                diary[date] = full_entry
                current_entry = []
def read():
^^replace last line of code
def read(action):
    if access == "Decoy":
        print("Ok! here is your whole diary")
        return
    action_read = input("""What would you like to read
1) The whole diary
2) A specific entry
3) An entry from a specific date """)
    if action_read == "1":
^^replace last two pieces of code
    if re.search(r"\b(all|whole|full)",action):
        print("Ok! here is your whole diary")
        for key in diary:
            print("Here is your entry from",key)
            print(diary[key])
            print("--------------------")
            print()
    elif action_read == "2":
^^replace last line of code
    elif action == "2":
        number = int(input("What number entry do you
want to read? "))
^^replace last two lines of code
    elif
```

6.1: Main menu

6.2: Updating the read function

6.2: Updating the read function

6.2: Updating the read function

6.5: Ordinals and numbers

6.2: Updating the read function

6.3: Dates Dates Dates

6.4: Extracting a date

6.4: Extracting a date

6.1: Main menu

6.1: Main menu

6.2: Updating the read function

```
re.search(r"(^|\s)\d+(st|nd|rd|th|)(\s|$)",action):
        number =
int(re.findall(r"(^|\s)\d+(st|nd|rd|th|)(\s|$)",action)[
0][1])
        if number <= len(diary.keys()):
            print("Here is entry number",number)
            num_to_date = list(diary.keys())[number-1]
            print(diary[num_to_date])
        else:
            print("There are not that many entries in
the diary")
    elif action_read == "3":
^^replace last line of code
    elif action == "3":
^^replace last line of code
    elif
re.search(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(\
d{2}|\d{4})($|\s)",action):
        date = input("What is the date of the entry you
would like to read (dd/mm/yyyy)? ")
^^replace last line of code
        temp =
re.findall(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(
\d{2}|\d{4})($|\s)",action)[0]
        days = temp[1]
        months = temp[3]
        years = temp[5]
        date = days + "/" + months + "/" + years
        if date in diary:
            print("Here is your entry from",date)
            print(diary[date])
        else:
            print("There is not an entry for that date
sorry")
    else:
        print("I didn't understand")

# Write functions go here
def write_to_diary():
    with open("diary.txt","w") as f:
        for key in diary:
            f.write(key+"\n")
            f.write(diary[key]+"\n")
            f.write("-------\n")
```

6.1: Main menu

6.1: Main menu

```
def write():
    global diary
    current = []
    entry_date = input("What date is the entry for? ")
^^replace last line of code
    test = input("What date is the entry for? ")
    if
re.search(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(\
d{2}|\d{4})($|\s)",test):
        temp =
re.findall(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(
\d{2}|\d{4})($|\s)",test)[0]
        days = temp[1]
        months = temp[3]
        years = temp[5]
        entry_date = days + "/" + months + "/" + years
    if entry_date in diary and access == "Full":
        add = input("That date is already in the diary.
Would you like to add to it? (yes/no) ")
        if add == "yes":
            current.append(diary[entry_date])
        else:
            print("Ok. I'll transfer you back to the
main menu...")
            return
    entry = input("What would you like to add to the
entry? ")
    while entry:
        current.append(entry)
        entry = input("")
    if access == "Full":
        diary[entry_date] = "\n".join(current)
        write_to_diary()

# Main code goes here
password = "Tutors rock!"
decoy = "password123"
access = None
diary = {}

print("Welcome to the Secret Diary Chatbot!")
name = input("What is your name? ")
print("Hello", name)
exit = False
```

```
guesses = 0
while access is None and guesses < 3:
    guess = input("What is the password? ")
    guesses += 1
    if guess == password:
        access = "Full"
    elif guess == decoy:
        access = "Decoy"
    else:
        print("That password was incorrect!")
if guess is None:
    print("You are not my owner GO AWAY >:(")
    exit = True

while not exit:
    action = input("""What would you like to do?
1) read the diary
2) write into the diary
3) end the program """)
^^replace the above input line
    action = input("Hey! What would you like to do?
").lower()
    if action == "1":
^^replace last line of code
    if re.search(r"\b(read|see|view)",action):
        read()
^^replace last line of code
        read(action)
    elif action == "2":
^^replace last line of code
    elif re.search(r"\b(write|add|append)",action):
        write()
    elif action == "3":
^^replace last line of code
    elif re.search(r"\b(stop|quit|end)",action):
        print("Ok goodbye :(")
        exit = True
    else:
        print("I'm sorry I don't know what you want me
to do.")
```

Final Full Code (no extension activities)

Final Full Code

```
# Imports go here
import re

# Read functions go here
def open_diary():
    global diary
    current_entry = []
    with open("diary.txt","r") as f:
        for line in f:
            line = line.strip()
            if line != "-------":
                current_entry.append(line)
            else:
                date = current_entry.pop(0)
                full_entry = "\n".join(current_entry)
                diary[date] = full_entry
                current_entry = []

def read(action):
    if access == "Decoy":
        print("Ok! here is your whole diary")
        return
    if re.search(r"\b(all|whole|full)",action):
        print("Ok! here is your whole diary")
        for key in diary:
            print("Here is your entry from",key)
            print(diary[key])
            print("---------------------")
            print()
    elif re.search(r"(^|\s)\d+(st|nd|rd|th|)(\s|$)",action):
        number = int(re.findall(r"(^|\s)\d+(st|nd|rd|th|)(\s|$)",action)[0][1])
        if number <= len(diary.keys()):
            print("Here is entry number",number)
            num_to_date = list(diary.keys())[number-1]
            print(diary[num_to_date])
        else:
            print("There are not that many entries in the diary")
    elif
re.search(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(\d{2}|\d{4})($|\s)",acti
on):
        temp =
```

```
re.findall(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(\d{2}|\d{4})($|\s)",act
ion)[0]
        days = temp[1]
        months = temp[3]
        years = temp[5]
        date = days + "/" + months + "/" + years
        if date in diary:
            print("Here is your entry from",date)
            print(diary[date])
        else:
            print("There is not an entry for that date sorry")
    else:
        print("I didn't understand")

# Write functions go here
def write_to_diary():
    with open("diary.txt","w") as f:
        for key in diary:
            f.write(key+"\n")
            f.write(diary[key]+"\n")
            f.write("-------\n")

def write():
    global diary
    current = []
    test = input("What date is the entry for? ")
    if
re.search(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(\d{2}|\d{4})($|\s)",test
):
        temp =
re.findall(r"(^|\s)\d{1,2}(/|\\|-|\.)\d{1,2}(/|\\|-|\.)(\d{2}|\d{4})($|\s)",tes
t)[0]
        days = temp[1]
        months = temp[3]
        years = temp[5]
        entry_date = days + "/" + months + "/" + years
    if entry_date in diary and access == "Full":
        add = input("That date is already in the diary. Would you like to add
to it? (yes/no) ")
        if add == "yes":
            current.append(diary[entry_date])
        else:
            print("Ok. I'll transfer you back to the main menu...")
            return
    entry = input("What would you like to add to the entry? ")
```

```
    while entry:
        current.append(entry)
        entry = input("")
    if access == "Full":
        diary[entry_date] = "\n".join(current)
        write_to_diary()

# Main code goes here
password = "Tutors rock!"
decoy = "password123"
access = None
diary = {}

print("Welcome to the Secret Diary Chatbot!")
name = input("What is your name? ")
print("Hello", name)
exit = False

guesses = 0
while access is None and guesses < 3:
    guess = input("What is the password? ")
    guesses += 1
    if guess == password:
        access = "Full"
    elif guess == decoy:
        access = "Decoy"
    else:
        print("That password was incorrect!")
if guess is None:
    print("You are not my owner GO AWAY >:(")
    exit = True

while not exit:
    action = input("Hey! What would you like to do? ").lower()
    if re.search(r"\b(read|see|view)",action):
        read(action)
    elif re.search(r"\b(write|add|append)",action):
        write()
    elif re.search(r"\b(stop|quit|end)",action):
        print("Ok goodbye :(")
        exit = True
    else:
        print("I'm sorry I don't know what you want me to do.")
```