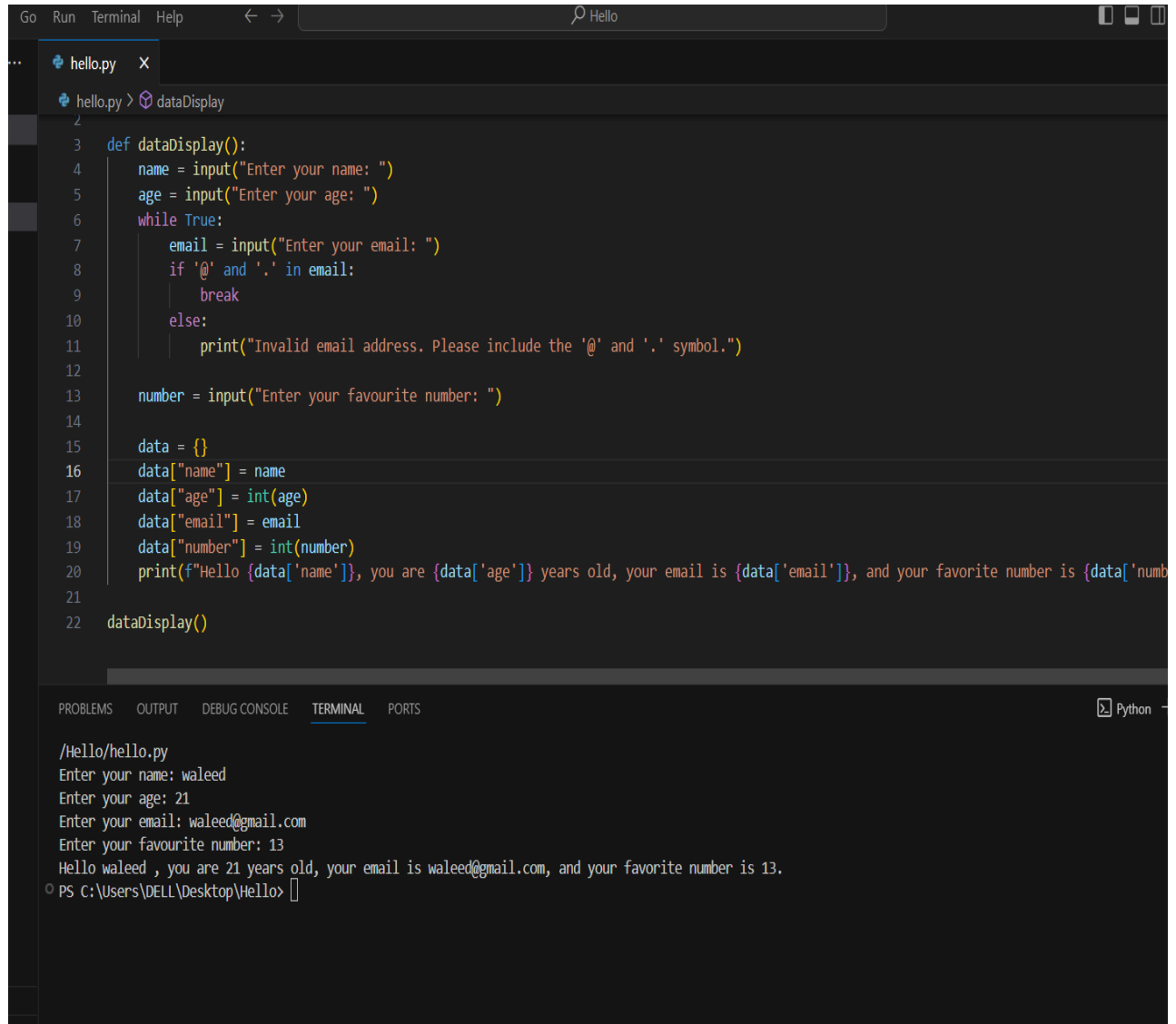


SCREENSHOTS OF THE OUTPUTS:

Q1:



The screenshot shows a Visual Studio Code editor window with a file named `hello.py`. The code defines a function `dataDisplay()` that prompts the user for their name, age, email, and favorite number. It then prints a formatted string with the collected data. The terminal output shows the execution of the script, with the user providing the following inputs: name: waleed, age: 21, email: waleed@gmail.com, and favorite number: 13. The final output is: "Hello waleed , you are 21 years old, your email is waleed@gmail.com, and your favorite number is 13."

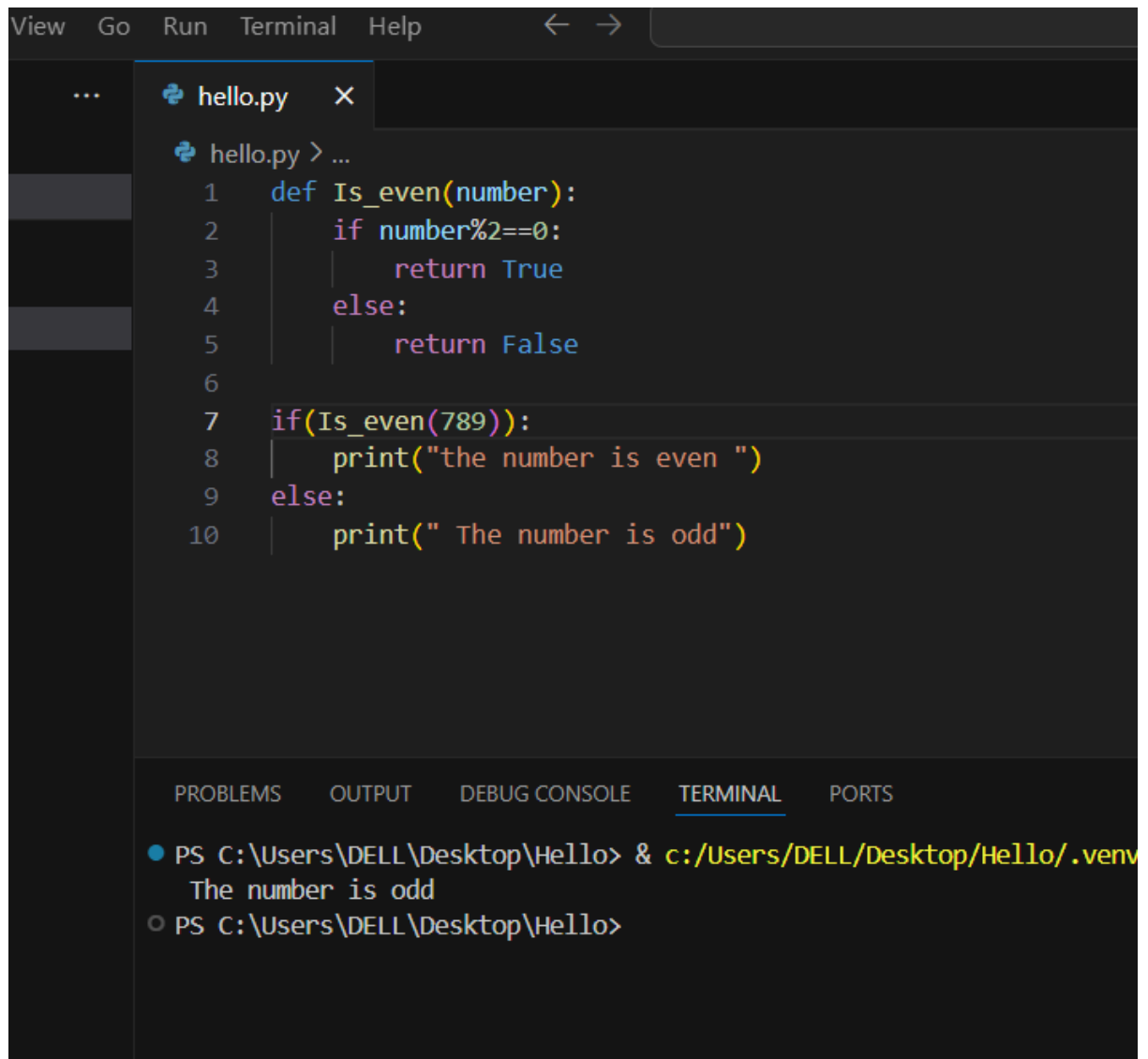
```
Go Run Terminal Help
Hello

hello.py x
hello.py > dataDisplay
2
3 def dataDisplay():
4     name = input("Enter your name: ")
5     age = input("Enter your age: ")
6     while True:
7         email = input("Enter your email: ")
8         if '@' and '.' in email:
9             break
10        else:
11            print("Invalid email address. Please include the '@' and '.' symbol.")
12
13    number = input("Enter your favourite number: ")
14
15    data = {}
16    data["name"] = name
17    data["age"] = int(age)
18    data["email"] = email
19    data["number"] = int(number)
20    print(f"Hello {data['name']}, you are {data['age']} years old, your email is {data['email']}, and your favorite number is {data['number']}")
21
22    dataDisplay()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python

```
/Hello/hello.py
Enter your name: waleed
Enter your age: 21
Enter your email: waleed@gmail.com
Enter your favourite number: 13
Hello waleed , you are 21 years old, your email is waleed@gmail.com, and your favorite number is 13.
PS C:\Users\DELL\Desktop\Hello>
```

Q2:



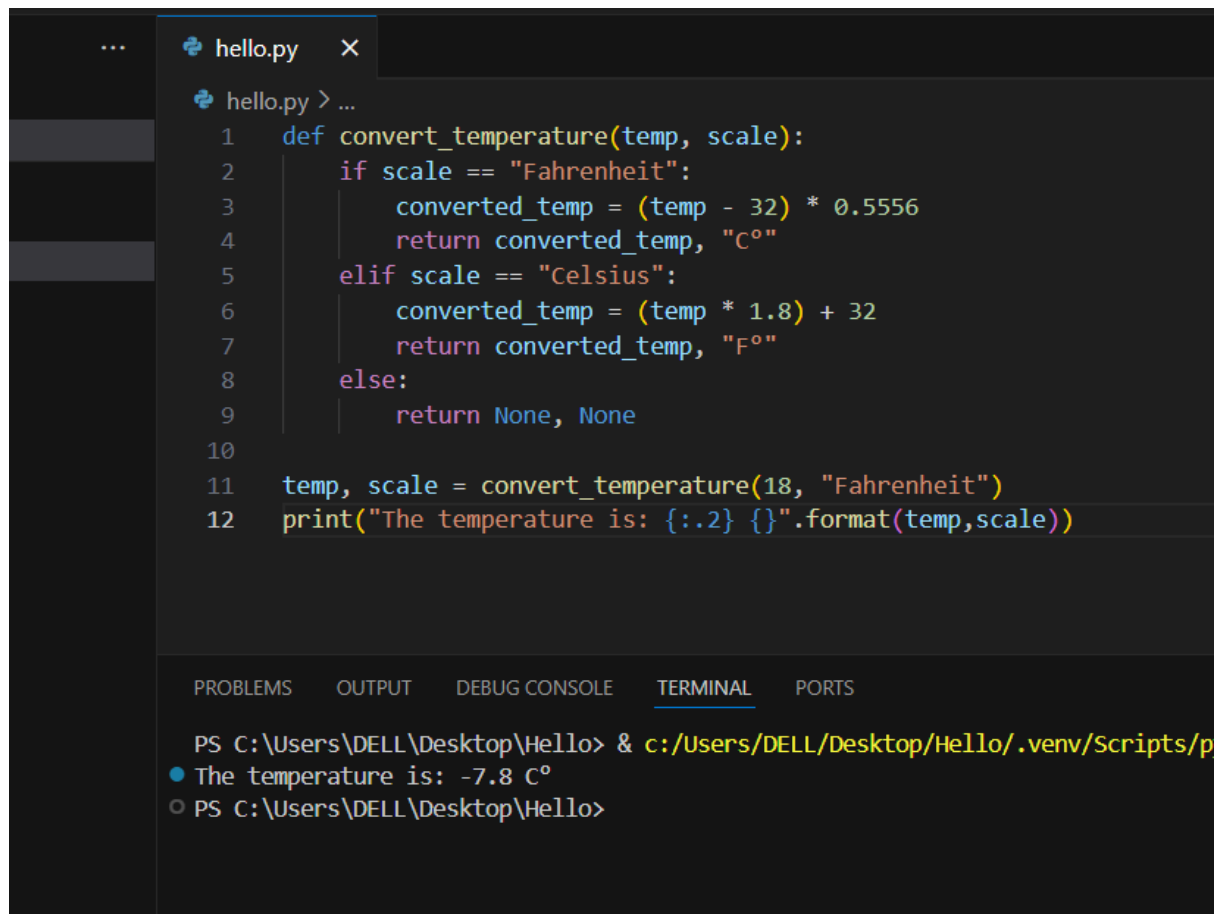
The image shows a screenshot of a code editor interface. At the top, there is a menu bar with 'View', 'Go', 'Run', 'Terminal', and 'Help'. Below the menu bar, there is a tab labeled 'hello.py' with a close button. The main editor area displays the following Python code:

```
1 def Is_even(number):
2     if number%2==0:
3         return True
4     else:
5         return False
6
7 if(Is_even(789)):
8     print("the number is even ")
9 else:
10    print(" The number is odd")
```

At the bottom of the editor, there is a panel with tabs for 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', 'TERMINAL', and 'PORTS'. The 'TERMINAL' tab is selected, showing the following output:

```
● PS C:\Users\DELL\Desktop\Hello> & c:/Users/DELL/Desktop/Hello/.venv
  The number is odd
○ PS C:\Users\DELL\Desktop\Hello>
```

Q3:



The image shows a code editor with a file named `hello.py`. The code defines a function `convert_temperature` that takes `temp` and `scale` as arguments. It uses an `if-elif-else` structure to convert the temperature from Fahrenheit to Celsius or vice versa. The function returns the converted temperature and the scale. Below the function definition, the code calls `convert_temperature(18, "Fahrenheit")` and prints the result using a formatted string.

```
1 def convert_temperature(temp, scale):
2     if scale == "Fahrenheit":
3         converted_temp = (temp - 32) * 0.5556
4         return converted_temp, "C°"
5     elif scale == "Celsius":
6         converted_temp = (temp * 1.8) + 32
7         return converted_temp, "F°"
8     else:
9         return None, None
10
11 temp, scale = convert_temperature(18, "Fahrenheit")
12 print("The temperature is: {:.2} {}".format(temp, scale))
```

The terminal output shows the command being executed and the result:

```
PS C:\Users\DELL\Desktop\Hello> & c:/Users/DELL/Desktop/Hello/.venv/Scripts/p
● The temperature is: -7.8 C°
○ PS C:\Users\DELL\Desktop\Hello>
```

Q4:

```
hello.py X
hello.py > ...
1 def findMaxMin(numbers):
2     return max(numbers),min(numbers)
3
4 user_input = input("Enter 5 numbers separated by spaces: ")
5
6 stringArray=user_input.split()
7 myList=[int(number) for number in stringArray]
8
9 max , min=findMaxMin(myList)
10 print("The highest and lowest numbers are:",max,min)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
● PS C:\Users\DELL\Desktop\Hello> & c:/Users/DELL/Desktop/Hello/.venv/Scripts/python.e
Enter 5 numbers separated by spaces: 456 78 38838 -22 4
The highest and lowest numbers are: 38838 -22
○ PS C:\Users\DELL\Desktop\Hello> 
```

Q5:

```
hello.py X
hello.py > dataDisplay
1 def dataDisplay():
2     dataList=[]
3     dataDictionary={}
4
5     for i in range(3):
6         name=input("Enter name of student no-{} :".format(i+1))
7         age=input("Enter age of student no-{} :".format(i+1))
8         grade=input("Enter grade of studnet no-{} : " .format(i+1))
9         dataTuple=(name,int(age),grade.upper())
10
11     dataList.append(dataTuple)
12
13     for key ,value, extra in dataList:
14         dataDictionary[key]=value,extra
15
16     for key,(value,extra) in dataDictionary.items():
17         print(f"The name of {key} is {value} years old and grade is : {extra}")
18
19
20 dataDisplay()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● Enter name of student no-1 :waleed
Enter age of student no-1 :21
Enter grade of studnet no-1 :d
Enter name of student no-2 :ali
Enter age of student no-2 :22
Enter grade of studnet no-2 :f
Enter name of student no-3 :usman
Enter age of student no-3 :45
Enter grade of studnet no-3 :a
The name of waleed is 21 years old and grade is : D
The name of ali is 22 years old and grade is : F
The name of usman is 45 years old and grade is : A
○ PS C:\Users\DELL\Desktop\Hello> 
```

Q6:

```
Go Run Terminal Help
hello.py
hello.py > ...
1 def inventoryUpdate(inventoryDictionary,item,quantity,operation):
2     originalQuantity=inventoryDictionary[item]
3     afterRemoving=originalQuantity-int(quantity)
4     afterAdding=originalQuantity+int(quantity)
5     if(operation=="ADD"):
6         inventoryDictionary[item]=afterAdding
7     elif(operation=="REMOVE"):
8         if(afterRemoving>0):
9             inventoryDictionary[item]=afterRemoving
10        else:
11            inventoryDictionary["Warning"]="The removal of given quantity will cause quantity to go below 0
12    itemList={
13        "chocolates":3,
14        "mangoes":56,
15        "gums":3,
16        "chips":44,
17        "biscuits":34
18    }
19    for i in range(3):
20        print(itemList )
21        items=input("Select a single item from the above list:")
22        quantity=input("Select the quantity you want to add or delete:")
23        operation=input("DO YOU WANT TO ADD OR REMOVE ?")
24        inventoryUpdate(itemList,items,quantity,operation.upper())
25    print(itemList)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\DELL\Desktop\Hello> & c:/Users/DELL/Desktop/Hello/.venv/Scripts/python.exe c:/Users/DELL/Desktop/Hello/hello.py
{'chocolates': 3, 'mangoes': 56, 'gums': 3, 'chips': 44, 'biscuits': 34}
Select a single item from the above list:chips
Select the quantity you want to add or delete:37
DO YOU WANT TO ADD OR REMOVE ?add
{'chocolates': 3, 'mangoes': 56, 'gums': 3, 'chips': 81, 'biscuits': 34}
Select a single item from the above list:biscuits
Select the quantity you want to add or delete:33
DO YOU WANT TO ADD OR REMOVE ?remove
{'chocolates': 3, 'mangoes': 56, 'gums': 3, 'chips': 81, 'biscuits': 1}
```