# Write-up Process for Weekly Project 1

In order to complete this assignment, I decided to use ChatGPT to assist me with my coding.

1. **I first read over the assignment as a whole** and then decided to make my own word document to break down all the key parts I needed to remember about what is needed for this project.
2. I remembered you saying in class something about when we were to turn in code that you wanted us to include something that wasn’t listed in this current assignment, so **I decided to go back through our lecture from Thursday and make a couple more notes on my own word document.** \*\*\*The answer I was looking for was a hear comment to include, name, date created, date modified, the class, and the problem that we are submitting. \*\*\*
3. **I then broke down the steps I needed to take in order to reach my goal with this assignment.** 
   1. Input day of the week (for three days)
   2. Input the high and low temperature for the day (in Fahrenheit)
   3. Input the amount of rainfall for the day (in inches)
   4. Calculate the average for the high and low temperatures (over the 3 days)
   5. Calculate the total rainfall (over the last 3 days)
   6. Print all calculations
   7. Print all calculations after converting the temps to Celsius and rainfall to centimeters.
4. **I copied and pasted the prompt into ChatGPT:** “you are to write Python code to accomplish the following: Prompt the user to enter the following information the day of the week (such as Friday) the high temperature for the day (in degrees Fahrenheit) the low temperature for the day (in degrees Fahrenheit) the amount of rainfall for the day (in inches) After the user has input the information for the first day ask them to do this again for the next day and the next day. Capture the user's input in appropriate variables as called for. A total of 12 pieces of data will be received from the user for each run of the program. Calculate the average high temperature over the three-day span, the average low temperature over the three-day span, and the TOTAL rainfall over the three-day span. Print out to the screen the results of your calculations along with an appropriate explanation of what you are printing. Format your printout to look as it should.”
   1. ChatGPT created this code for me in response:
   2. def get\_weather\_data():
   3. days = []
   4. high\_temps = []
   5. low\_temps = []
   6. rainfalls = []
   8. for i in range(3):
   9. print(f"Enter the data for day {i+1}:")
   11. day = input("Day of the week: ")
   12. high\_temp = float(input("High temperature (in degrees Fahrenheit): "))
   13. low\_temp = float(input("Low temperature (in degrees Fahrenheit): "))
   14. rainfall = float(input("Amount of rainfall (in inches): "))
   16. days.append(day)
   17. high\_temps.append(high\_temp)
   18. low\_temps.append(low\_temp)
   19. rainfalls.append(rainfall)
   21. avg\_high\_temp = sum(high\_temps) / len(high\_temps)
   22. avg\_low\_temp = sum(low\_temps) / len(low\_temps)
   23. total\_rainfall = sum(rainfalls)
   25. print("\nWeather Summary for the Three-Day Span:")
   26. print(f"Average High Temperature: {avg\_high\_temp:.2f}°F")
   27. print(f"Average Low Temperature: {avg\_low\_temp:.2f}°F")
   28. print(f"Total Rainfall: {total\_rainfall:.2f} inches")
   30. if \_\_name\_\_ == "\_\_main\_\_":
   31. get\_weather\_data()
5. **I then told ChatGPT to rewrite the code without the use of the get\_weather\_data function and this is what was then produced.**
   1. # Initialize lists to store data for each day
   2. days = []
   3. high\_temps = []
   4. low\_temps = []
   5. rainfalls = []
   6. # Collect data for three days
   7. for i in range(3):
   8. print(f"Enter the data for day {i+1}:")
   10. day = input("Day of the week: ")
   11. high\_temp = float(input("High temperature (in degrees Fahrenheit): "))
   12. low\_temp = float(input("Low temperature (in degrees Fahrenheit): "))
   13. rainfall = float(input("Amount of rainfall (in inches): "))
   15. days.append(day)
   16. high\_temps.append(high\_temp)
   17. low\_temps.append(low\_temp)
   18. rainfalls.append(rainfall)
   19. # Calculate averages and total
   20. avg\_high\_temp = sum(high\_temps) / len(high\_temps)
   21. avg\_low\_temp = sum(low\_temps) / len(low\_temps)
   22. total\_rainfall = sum(rainfalls)
   23. # Print the results
   24. print("\nWeather Summary for the Three-Day Span:")
   25. print(f"Average High Temperature: {avg\_high\_temp:.2f}°F")
   26. print(f"Average Low Temperature: {avg\_low\_temp:.2f}°F")
   27. print(f"Total Rainfall: {total\_rainfall:.2f} inches")
6. **I then asked ChatGPT to please rewrite this code without loops and this was the result:**
   1. # Collect data for day 1
   2. print("Enter the data for day 1:")
   3. day1 = input("Day of the week: ")
   4. high\_temp1 = float(input("High temperature (in degrees Fahrenheit): "))
   5. low\_temp1 = float(input("Low temperature (in degrees Fahrenheit): "))
   6. rainfall1 = float(input("Amount of rainfall (in inches): "))
   7. # Collect data for day 2
   8. print("Enter the data for day 2:")
   9. day2 = input("Day of the week: ")
   10. high\_temp2 = float(input("High temperature (in degrees Fahrenheit): "))
   11. low\_temp2 = float(input("Low temperature (in degrees Fahrenheit): "))
   12. rainfall2 = float(input("Amount of rainfall (in inches): "))
   13. # Collect data for day 3
   14. print("Enter the data for day 3:")
   15. day3 = input("Day of the week: ")
   16. high\_temp3 = float(input("High temperature (in degrees Fahrenheit): "))
   17. low\_temp3 = float(input("Low temperature (in degrees Fahrenheit): "))
   18. rainfall3 = float(input("Amount of rainfall (in inches): "))
   19. # Calculate averages and total
   20. avg\_high\_temp = (high\_temp1 + high\_temp2 + high\_temp3) / 3
   21. avg\_low\_temp = (low\_temp1 + low\_temp2 + low\_temp3) / 3
   22. total\_rainfall = rainfall1 + rainfall2 + rainfall3
   23. # Print the results
   24. print("\nWeather Summary for the Three-Day Span:")
   25. print(f"Average High Temperature: {avg\_high\_temp:.2f}°F")
   26. print(f"Average Low Temperature: {avg\_low\_temp:.2f}°F")
   27. print(f"Total Rainfall: {total\_rainfall:.2f} inches")
7. **I then told ChatGPT to not format the print and then it gave me this code:** 
   1. # Collect data for day 1
   2. print("Enter the data for day 1:")
   3. day1 = input("Day of the week: ")
   4. high\_temp1 = float(input("High temperature (in degrees Fahrenheit): "))
   5. low\_temp1 = float(input("Low temperature (in degrees Fahrenheit): "))
   6. rainfall1 = float(input("Amount of rainfall (in inches): "))
   7. # Collect data for day 2
   8. print("Enter the data for day 2:")
   9. day2 = input("Day of the week: ")
   10. high\_temp2 = float(input("High temperature (in degrees Fahrenheit): "))
   11. low\_temp2 = float(input("Low temperature (in degrees Fahrenheit): "))
   12. rainfall2 = float(input("Amount of rainfall (in inches): "))
   13. # Collect data for day 3
   14. print("Enter the data for day 3:")
   15. day3 = input("Day of the week: ")
   16. high\_temp3 = float(input("High temperature (in degrees Fahrenheit): "))
   17. low\_temp3 = float(input("Low temperature (in degrees Fahrenheit): "))
   18. rainfall3 = float(input("Amount of rainfall (in inches): "))
   19. # Calculate averages and total
   20. avg\_high\_temp = (high\_temp1 + high\_temp2 + high\_temp3) / 3
   21. avg\_low\_temp = (low\_temp1 + low\_temp2 + low\_temp3) / 3
   22. total\_rainfall = rainfall1 + rainfall2 + rainfall3
   23. # Print the results without formatting
   24. print("\nWeather Summary for the Three-Day Span:")
   25. print("Average High Temperature:", avg\_high\_temp, "°F")
   26. print("Average Low Temperature:", avg\_low\_temp, "°F")
   27. print("Total Rainfall:", total\_rainfall, "inches")
8. **I then decided to copy this code into IDLE and run it. Although I didn’t have the data for the weather for each day just yet, even with putting in random data for each day, the code ran smoothly. And because of the help of ChatGPT it already converted “degrees into the degrees symbol” which was very convenient. However, I needed my final code to also include the conversion from Fahrenheit to Celsius and Inches into Centimeters.**
9. **I went back into ChatGPT. I then told ChatGPT “**Next, print out the results again after converting the high and low temperatures to Celcius and the rainfall total to centimeters” **and this was the full result for the code that was asked to solve weekly project 1:**
   1. # Function to convert Fahrenheit to Celsius
   2. def fahrenheit\_to\_celsius(fahrenheit):
   3. return (fahrenheit - 32) \* 5 / 9
   4. # Function to convert inches to centimeters
   5. def inches\_to\_centimeters(inches):
   6. return inches \* 2.54
   7. # Collect data for day 1
   8. print("Enter the data for day 1:")
   9. day1 = input("Day of the week: ")
   10. high\_temp1 = float(input("High temperature (in degrees Fahrenheit): "))
   11. low\_temp1 = float(input("Low temperature (in degrees Fahrenheit): "))
   12. rainfall1 = float(input("Amount of rainfall (in inches): "))
   13. # Collect data for day 2
   14. print("Enter the data for day 2:")
   15. day2 = input("Day of the week: ")
   16. high\_temp2 = float(input("High temperature (in degrees Fahrenheit): "))
   17. low\_temp2 = float(input("Low temperature (in degrees Fahrenheit): "))
   18. rainfall2 = float(input("Amount of rainfall (in inches): "))
   19. # Collect data for day 3
   20. print("Enter the data for day 3:")
   21. day3 = input("Day of the week: ")
   22. high\_temp3 = float(input("High temperature (in degrees Fahrenheit): "))
   23. low\_temp3 = float(input("Low temperature (in degrees Fahrenheit): "))
   24. rainfall3 = float(input("Amount of rainfall (in inches): "))
   25. # Calculate averages and total in Fahrenheit and inches
   26. avg\_high\_temp\_f = (high\_temp1 + high\_temp2 + high\_temp3) / 3
   27. avg\_low\_temp\_f = (low\_temp1 + low\_temp2 + low\_temp3) / 3
   28. total\_rainfall\_in = rainfall1 + rainfall2 + rainfall3
   29. # Convert temperatures to Celsius
   30. avg\_high\_temp\_c = fahrenheit\_to\_celsius(avg\_high\_temp\_f)
   31. avg\_low\_temp\_c = fahrenheit\_to\_celsius(avg\_low\_temp\_f)
   32. # Convert rainfall to centimeters
   33. total\_rainfall\_cm = inches\_to\_centimeters(total\_rainfall\_in)
   34. # Print the results in Fahrenheit and inches
   35. print("\nWeather Summary for the Three-Day Span (in Fahrenheit and inches):")
   36. print("Average High Temperature:", avg\_high\_temp\_f, "°F")
   37. print("Average Low Temperature:", avg\_low\_temp\_f, "°F")
   38. print("Total Rainfall:", total\_rainfall\_in, "inches")
   39. # Print the results in Celsius and centimeters
   40. print("\nWeather Summary for the Three-Day Span (in Celsius and centimeters):")
   41. print("Average High Temperature:", avg\_high\_temp\_c, "°C")
   42. print("Average Low Temperature:", avg\_low\_temp\_c, "°C")
   43. print("Total Rainfall:", total\_rainfall\_cm, "cm")
10. **I went back into IDLE and reran my new code to give me the final result I was looking for even without gathering the accurate weather data just yet.**
11. **Then I created a new prompt to ask ChatGPT for the high and low temperatures for Friday and Saturday which came back with:**
    1. Today in Austin, TX, the high temperature is expected to reach around **83°F**, with a low of approximately **70°F** tonight.
    2. For tomorrow, the high is forecasted to be near **91°F**, and the low will be around **76°F.**
12. **I followed up with “what was the amount of rainfall in inches for today (Friday) in Austin, TX?” and ChatGPT responded with** 
    1. Today, Austin, TX received a total of **0.56 inches of rainfall**. This figure is based on the most recent data from weather monitoring sources, which provide real-time updates on precipitation in the area​
13. **On Sunday I followed up with ChatGPT and asked, “what was the amount of rainfall in inches for Saturday June 1st in Austin, TX?” and ChatGPT responded with:**
    1. On Saturday, June 1, 2024, Austin, TX recorded approximately **0.34 inches of rainfall**. This data was collected from various weather monitoring sources and provides a snapshot of the precipitation in the area on that day​
14. **Next, I asked ChatGPT “what is the expected high and low temperature for today (being Sunday) in Austin, TX in degrees Fahrenheit?” and ChatGPT responded with:**
    1. The expected high temperature for today in Austin, TX, is around **92°F**, while the low is predicted to be approximately **76°F**​.
15. **For my last bit of data, I asked ChatGPT “what is the total amount of rainfall in inches for Sunday June 2nd in Austin, TX?” and ChatGPT gave me:**
    1. On Sunday, June 2, 2024, Austin, TX experienced a total rainfall of approximately **0.45 inches**. This data was gathered from local weather monitoring stations and the National Weather Service, ensuring accuracy in the reported amount​
16. **I almost forgot about the header comment that was needed for the assignment, so I went back to the original prompt on ChatGPT and added “can you please add a header comment that is multiple lines to include Name, Date Created, Date Last Modified, Class, and Weekly Project 1 Problem?” which ChatGPT responded with this code at the beginning of the last code it produced.**
    1. """ Name: [Your Name] Date Created: [Date Created] Date Last Modified: [Date Last Modified] Class: [Your Class] Weekly Project 1 Problem """
17. **I tried to run the code with all of the data that ChatGPT had provided however the header line wasn’t working properly and my final answers for the degrees in Fahrenheit and Celsius as well as the rainfall from Inches to Centimeters has long and drawn-out decimal numbers.**
18. **I went back to ChatGPT and asked, “can you change the average high and low temperature to end in only 2 decimal points?” and this was the new code it provided:**
    1. """
    2. Name: [Your Name]
    3. Date Created: [Date Created]
    4. Date Last Modified: [Date Last Modified]
    5. Class: [Your Class]
    6. Weekly Project 1 Problem
    7. """
    8. # Function to convert Fahrenheit to Celsius
    9. def fahrenheit\_to\_celsius(fahrenheit):
    10. return (fahrenheit - 32) \* 5 / 9
    11. # Function to convert inches to centimeters
    12. def inches\_to\_centimeters(inches):
    13. return inches \* 2.54
    14. # Collect data for day 1
    15. print("Enter the data for day 1:")
    16. day1 = input("Day of the week: ")
    17. high\_temp1 = float(input("High temperature (in degrees Fahrenheit): "))
    18. low\_temp1 = float(input("Low temperature (in degrees Fahrenheit): "))
    19. rainfall1 = float(input("Amount of rainfall (in inches): "))
    20. # Collect data for day 2
    21. print("Enter the data for day 2:")
    22. day2 = input("Day of the week: ")
    23. high\_temp2 = float(input("High temperature (in degrees Fahrenheit): "))
    24. low\_temp2 = float(input("Low temperature (in degrees Fahrenheit): "))
    25. rainfall2 = float(input("Amount of rainfall (in inches): "))
    26. # Collect data for day 3
    27. print("Enter the data for day 3:")
    28. day3 = input("Day of the week: ")
    29. high\_temp3 = float(input("High temperature (in degrees Fahrenheit): "))
    30. low\_temp3 = float(input("Low temperature (in degrees Fahrenheit): "))
    31. rainfall3 = float(input("Amount of rainfall (in inches): "))
    32. # Calculate averages and total in Fahrenheit and inches
    33. avg\_high\_temp\_f = (high\_temp1 + high\_temp2 + high\_temp3) / 3
    34. avg\_low\_temp\_f = (low\_temp1 + low\_temp2 + low\_temp3) / 3
    35. total\_rainfall\_in = rainfall1 + rainfall2 + rainfall3
    36. # Convert temperatures to Celsius
    37. avg\_high\_temp\_c = fahrenheit\_to\_celsius(avg\_high\_temp\_f)
    38. avg\_low\_temp\_c = fahrenheit\_to\_celsius(avg\_low\_temp\_f)
    39. # Convert rainfall to centimeters
    40. total\_rainfall\_cm = inches\_to\_centimeters(total\_rainfall\_in)
    41. # Print the results in Fahrenheit and inches
    42. print("\nWeather Summary for the Three-Day Span (in Fahrenheit and inches):")
    43. print("Average High Temperature: {:.2f}°F".format(avg\_high\_temp\_f))
    44. print("Average Low Temperature: {:.2f}°F".format(avg\_low\_temp\_f))
    45. print("Total Rainfall: {:.2f} inches".format(total\_rainfall\_in))
    46. # Print the results in Celsius and centimeters
    47. print("\nWeather Summary for the Three-Day Span (in Celsius and centimeters):")
    48. print("Average High Temperature: {:.2f}°C".format(avg\_high\_temp\_c))
    49. print("Average Low Temperature: {:.2f}°C".format(avg\_low\_temp\_c))
    50. print("Total Rainfall: {:.2f} cm".format(total\_rainfall\_cm))
19. **I then went back to read Chapter 2 in the book to go back over how to create comments. After gaining a better understanding of how to format comments according to the book I went back to ChatGPT and asked, “can you change the header comment to be formatted like this?**

**# Display Name:**

**print('Brianna Cooper')**

**# Date Created:**

**print('May 31, 2024')**

**# Date Last Modified:**

**print('June 2, 2024')**

**# Class:**

**print('COSC 1336')**

**print('Weekly Project 1 Problem')?” And ChatGPT updated the final code for me to look like this:**

* 1. # Display Name:
  2. print('Brianna Cooper')
  3. # Date Created:
  4. print('May 31, 2024')
  5. # Date Last Modified:
  6. print('June 2, 2024')
  7. # Class:
  8. print('COSC 1336')
  9. print('Weekly Project 1 Problem')
  10. # Function to convert Fahrenheit to Celsius
  11. def fahrenheit\_to\_celsius(fahrenheit):
  12. return (fahrenheit - 32) \* 5 / 9
  13. # Function to convert inches to centimeters
  14. def inches\_to\_centimeters(inches):
  15. return inches \* 2.54
  16. # Collect data for day 1
  17. print("\nEnter the data for day 1:")
  18. day1 = input("Day of the week: ")
  19. high\_temp1 = float(input("High temperature (in degrees Fahrenheit): "))
  20. low\_temp1 = float(input("Low temperature (in degrees Fahrenheit): "))
  21. rainfall1 = float(input("Amount of rainfall (in inches): "))
  22. # Collect data for day 2
  23. print("\nEnter the data for day 2:")
  24. day2 = input("Day of the week: ")
  25. high\_temp2 = float(input("High temperature (in degrees Fahrenheit): "))
  26. low\_temp2 = float(input("Low temperature (in degrees Fahrenheit): "))
  27. rainfall2 = float(input("Amount of rainfall (in inches): "))
  28. # Collect data for day 3
  29. print("\nEnter the data for day 3:")
  30. day3 = input("Day of the week: ")
  31. high\_temp3 = float(input("High temperature (in degrees Fahrenheit): "))
  32. low\_temp3 = float(input("Low temperature (in degrees Fahrenheit): "))
  33. rainfall3 = float(input("Amount of rainfall (in inches): "))
  34. # Calculate averages and total in Fahrenheit and inches
  35. avg\_high\_temp\_f = (high\_temp1 + high\_temp2 + high\_temp3) / 3
  36. avg\_low\_temp\_f = (low\_temp1 + low\_temp2 + low\_temp3) / 3
  37. total\_rainfall\_in = rainfall1 + rainfall2 + rainfall3
  38. # Convert temperatures to Celsius
  39. avg\_high\_temp\_c = fahrenheit\_to\_celsius(avg\_high\_temp\_f)
  40. avg\_low\_temp\_c = fahrenheit\_to\_celsius(avg\_low\_temp\_f)
  41. # Convert rainfall to centimeters
  42. total\_rainfall\_cm = inches\_to\_centimeters(total\_rainfall\_in)
  43. # Print the results in Fahrenheit and inches
  44. print("\nWeather Summary for the Three-Day Span (in Fahrenheit and inches):")
  45. print("Average High Temperature: {:.2f}°F".format(avg\_high\_temp\_f))
  46. print("Average Low Temperature: {:.2f}°F".format(avg\_low\_temp\_f))
  47. print("Total Rainfall: {:.2f} inches".format(total\_rainfall\_in))
  48. # Print the results in Celsius and centimeters
  49. print("\nWeather Summary for the Three-Day Span (in Celsius and centimeters):")
  50. print("Average High Temperature: {:.2f}°C".format(avg\_high\_temp\_c))
  51. print("Average Low Temperature: {:.2f}°C".format(avg\_low\_temp\_c))
  52. print("Total Rainfall: {:.2f} cm".format(total\_rainfall\_cm))

1. **I went back into IDLE to produce my last run through of the code. My input was: Friday, 83, 70, 0.56; Saturday 91, 76, 0.34; and Sunday 92, 76, 0.45.**
2. **The final output read:** 
   1. **Weather Summary for the Three-Day Span (in Fahrenheit and inches):**
   2. **Average High Temperature: 88.67°F**
   3. **Average Low Temperature: 74.00°F**
   4. **Total Rainfall: 1.35 inches**
   5. **Weather Summary for the Three-Day Span (in Celsius and centimeters):**
   6. **Average High Temperature: 31.48°C**
   7. **Average Low Temperature: 23.33°C**
   8. **Total Rainfall: 3.43 cm**