**CSD-325 Module 4 Assignment**

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This document includes the flowchart and explanations for the modified sitka\_high\_low.py program. The original program was designed to read high temperatures from a CSV file and plot them. The updated version includes a menu system that allows users to choose between viewing high or low temperatures or exiting the program. The program loops until the user selects the exit option, displaying a thank you message upon exit.

A diagram of a process

Description automatically generated

**Documentation of Code Changes**

1. Added a menu system to let users choose between displaying high temperatures, low temperatures, or exiting.  
2. Modified the existing program to read both high and low temperatures from the CSV file.  
3. Updated the plotting function to display low temperatures in blue and high temperatures in red.  
4. Included a loop to allow continuous menu access until the user chooses to exit.  
5. Added an exit message to thank the user upon exiting.  
6. Utilized the 'sys' module to handle program termination.  
7. Updated the flowchart to reflect the changes made in the program.

**Python Code: sitka\_high\_low.py**import csv  
import sys  
from datetime import datetime  
from matplotlib import pyplot as plt  
  
def read\_weather\_data(filename):  
 dates, highs, lows = [], [], []  
 with open(filename) as f:  
 reader = csv.reader(f)  
 header\_row = next(reader)  
 for row in reader:  
 try:  
 current\_date = datetime.strptime(row[2], '%Y-%m-%d')  
 high = int(row[5])  
 low = int(row[6])  
 except ValueError:  
 continue  
 dates.append(current\_date)  
 highs.append(high)  
 lows.append(low)  
 return dates, highs, lows  
  
def plot\_data(dates, temperatures, title, color):  
 fig, ax = plt.subplots()  
 ax.plot(dates, temperatures, c=color)  
 plt.title(title, fontsize=24)  
 plt.xlabel('', fontsize=16)  
 fig.autofmt\_xdate()  
 plt.ylabel("Temperature (F)", fontsize=16)  
 plt.tick\_params(axis='both', which='major', labelsize=16)  
 plt.show()  
  
def main():  
 filename = 'sitka\_weather\_2018\_simple.csv'  
 dates, highs, lows = read\_weather\_data(filename)  
   
 while True:  
 print("\nWeather Data Viewer")  
 print("1. View High Temperatures")  
 print("2. View Low Temperatures")  
 print("3. Exit")  
 choice = input("Select an option (1, 2, or 3): ")  
   
 if choice == '1':  
 plot\_data(dates, highs, "Daily High Temperatures - 2018", 'red')  
 elif choice == '2':  
 plot\_data(dates, lows, "Daily Low Temperatures - 2018", 'blue')  
 elif choice == '3':  
 print("Exiting program. Thank you!")  
 sys.exit()  
 else:  
 print("Invalid choice. Please select 1, 2, or 3.")  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()