Due by 11:59 pm on the date specified in Canvas; 50 points total.

- *Late submissions are penalized 5 points per day late.*

Instructions:

- Complete each of the following problems as a separate Python (.py) file.
- The name of each Python file should be of the form "Lab7_probX.py" where 'X' is the problem number in the lab assignment.
  - Example: Lab7_prob1.py for problem 1, Lab7_prob2.py for problem 2, etc.
- "Zip" all three problem files into ONE zip file and submit to Canvas by the due date.
- Follow variable naming rules as described on pages 43-44.
- Comment frequently in your code using the "# comment" convention. At a minimum, you should have a comment line at the beginning of the program with your name and what the program will do. Comments are for the programmer (and your instructor) to read. *Be sure comments are not so long that they get cut off on the right side of the monitor (continue to the next line, if necessary, to avoid this situation).*
- Display a statement to the user on the purpose of the program through an intro() function called in the main () function *before* asking for any information. This is for the user to see. *Be sure this display is not so long that it gets cut off on the right side of the monitor (continue to the next line, if necessary, to avoid this situation).*
- Check the accuracy of the output. In other words, how do you know that the output is correct?
- The grading rubric is provided at the end of this document for your reference. Use it to 'check' your work before submitting it.
- **Make sure to call a main function in each problem below in addition to whatever other functions are specified in the problem.**

1. Problem #1 – Python Superhero Name (25 points)

- Write a program that creates your Python Superhero Name using your astrological (Zodiac) sign and eye color. The first dictionary should have the following key-value pairs:

Astrological (Zodiac) Sign (key)	Color (value)
Aries	Red
Taurus	Orange
Gemini	Yellow
Cancer	Green
Leo	Blue
Virgo	Indigo
Libra	Violet
Scorpio	Pink
Sagittarius	Brown
Capricorn	Gray
Aquarius	Lavender
Pisces	Turquoise

(Problem #1 continues on the next page)

The second dictionary should have the following key-value pairs:

Eye Color (key)	Noun (value)
brown	Thor
blue	Wolverine
hazel	Iron Man
green	Ghost Rider
gray	Daredevil
amber	Hulk

The program should prompt the user for their astrological (Zodiac) sign and eye color and then give back to the user their Python Superhero name.

Example: If the user enters "Pisces" and "brown" the program should give "Turquoise Thor."

i. Program must look up the user's Python Superhero Name using the dictionaries you created above.

ii. Give comments in your code. Call a main function. Display a statement to the user on the purpose of the program through an intro() function called in the main function.

2. Problem #2 – Set Operations with the Baltimore Orioles (25 points)

- Write a program that….

i. Opens **Orioles_2020.txt** and stores the words in a **set** called **orioles2020**. Display the set contents to the user. Display the number of players in the set to the user.

ii. Opens **Orioles_2021.txt** and store its words in a **set** called **orioles2021**. Display the set contents to the user. Display the number of players in the set to the user.

iii. Create a new set called **same_orioles** that is the list of all the Orioles players who were on both rosters by using a set operation (intersection). Print this set and how many players are in this set.

iv. Create a new set called **total_orioles** that is the list of all the Orioles players who were on either roster by using a set operation (union). Print this set and how many players are in this set.

v. Give comments in your code. Call a main function. Display a statement to the user on the purpose of the program through an intro() function called in the main function.

Grading Rubric

1. **Problem #1 – Python Superhero Name (25 points)**

_____ (5) Introductory statement to the user on the purpose of the program. Comments in your program. Called a main function.

_____ (5) Program prompts the user for astrological (Zodiac) sign and eye color.

_____ (5) Program code contains two separate dictionaries with key-value pairs from the tables listed in this lab.

_____ (5) Program queries dictionaries for values using astrological (Zodiac) sign and eye color as the keys.

_____ (5) Program displays the user's Python Superhero Name.

1. **Problem #2 – Unique Words and Set Operations (25 points)**

_____ (5) Introductory statement to the user on the purpose of the program. Comments in your program. Called a main function.

_____ (5) Program reads the data in from the Orioles_2020.txt file into the **orioles2020** set and gives the number of players.

_____ (5) Program reads the data in from the Orioles_2021.txt file into the **orioles2021** set and gives the number of players.

_____ (5) Create the set **same_orioles**, display its contents to the user, and give the number of players who were on both rosters.

_____ (5) Create the set **total_orioles**, display its contents to the user, and give the number of players who were on either roster.

Lab #8 Total = _____ / 50 points