Name: Rishbha Godara

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Assignment Title: Individual Programming Part 1

Summary of how the program should run:

The program prompts the user to enter the heights of two people in inches and stores the values in the variables "height1" and "height2". It then calculates the difference in height between the two people and stores it in the variable "height\_diff". It then converts the height of both people from inches to feet and inches and stores the values in the variables "feet1", "inch1", "feet2" and "inch2". Finally, it prints out the difference in height between the two people, as well as the heights of both people in feet and inches.

List of changes made to the original assignment:

1. The new program is more user-friendly than the old program because it asks for the name of each person and prompts the user to **input height corresponding the person’s name**.
2. It accepts height in **float** which provides more flexibility and accuracy to the users.
3. It uses the built-in function **abs()** and user defined function **compare\_height()** to take the absolute value of the difference in height, so that the output will show that person A is taller than person B with a positive difference.
4. It uses **f-strings** and **if else** statement which improve the program’s readability and efficiency.
5. The new program uses the **input()** function to get the inputs, while the old program uses eval(input()) which is not recommended as it can lead to security vulnerabilities if used improperly.

Examples of the program (please also upload any attachments necessary):

##### Example 1 #####

Enter the first person's name: Rish

Enter Rish's height in inches: 65

Enter the second person's name: Abhi

Enter Abhi's height in inches: 69

Abhi is 4.0 inches taller than Rish

Rish is 5'5.0" tall.

Abhi is 5'9.0" tall.

##### Example 2 #####

Enter the first person's name: Joe Bruin

Enter Joe Bruin's height in inches: 87

Enter the second person's name: Jane Doe Bruin

Enter Jane Doe Bruin's height in inches: 64

Joe Bruin is 23.0 inches taller than Jane Doe Bruin

Joe Bruin is 7'3.0" tall.

Jane Doe Bruin is 5'4.0" tall.

##### Example 3 #####

Enter the first person's name: Tiger

Enter Tiger's height in inches: 67.093527

Enter the second person's name: Shroff

Enter Shroff's height in inches: 80.2806

Shroff is 13.19 inches taller than Tiger

Tiger is 5'7.1" tall.

Shroff is 6'8.3" tall.

Errors that will crash the program or cause illogical problems:

The compiler will throw error and crash if non-float values are entered when prompting to input heights.

Additional examples or other comments/notes:

Empty height field:

Enter the first person's name: Joel

Enter Joel's height in inches:

Traceback (most recent call last):

File "/Users/rishbhagodara/Documents/UCLA/CourseWork/Q2/COM SCI X 418.104B (Python)/Rishbha\_Jan26\_IP1-P1ext.py", line 17, in <module>

first\_height = float(input("Enter " + first\_name +"'s height in inches: "))

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

ValueError: could not convert string to float: ''

Height in text format:

Enter the first person's name: Jack

Enter Jack's height in inches: twelve

Traceback (most recent call last):

File "/Users/rishbhagodara/Documents/UCLA/CourseWork/Q2/COM SCI X 418.104B (Python)/Rishbha\_Jan26\_IP1-P1ext.py", line 17, in <module>

first\_height = float(input("Enter " + first\_name +"'s height in inches: "))

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ValueError: could not convert string to float: 'twelve'