Program 2
Formatted Output and Symbolic Constants
(75 points)

Due: Friday, September 15 on Blackboard by 11:59 PM

Overview

For this assignment, write a program to calculate a powerlifter's total and formatting the output into a report.

Basic Program Logic

The basic logic for this program is similar to program 1: the user is asked to enter values, a calculation is performed, and the results of the calculation is displayed.

Ask the user of the program for their max squat. This value will be an integer.

Ask the user of the program for their max bench press. This value will be an integer.

Ask the user of the program for their max deadlift. This value will be an integer.

Use these three integer values to calculate the user's Wilks score, which attempts to quantify a person's strength relative to their body weight. For this assignment, we will assume the user has a Wilks Coefficient of **0.5976**.

The Wilks score is equal to the sum of the three max lift values times the Wilks Coefficient.

Finally, display the three max lift values, their sum, and the user's Wilks score. The labels for each value should be left justified while the values should be right justified, using the column widths specified with the symbolic constants below. The Wilks score should be displayed with EXACTLY 3 digits after the decimal point.

Symbolic Constants

This program MUST use at least 3 symbolic constants.

The first constant is for the user's Wilks Coefficient of 0.5976

The second constant is for the number of spaces to be allocated for the output report's left column (20)

The third constant is for the numebr of spaces to be allocated for the output report's right column (8)

More symbolic constants may be added to the code if necessary.

Program Requirements

1. At the top of the C++ source code, include a documentation box that resembles the one from program 1. Make sure the Date Due and Purpose are updated to reflect the current program.

2. Include line documentation. There is no need to document every single line, but logical "chunks" of code should be preceded by a line or two that describes what the "chunk" of code does. ***This will be a part of every program that is submitted for the remainder of the semester.***

3. The Wilks score should be displayed with exactly 3 digits after the decimal point, including zeroes.

4. The program MUST use the 3 symbolic constants described above.

5. Make sure to test the program with values other than the ones shown in the output below.

6. Hand in a copy of the source code (the CPP file) using Blackboard.

Output

A few runs of the program should produce the following results:

Run 1 (Daniel Rogness as of April 19th, 2023)

```
What is your max squat? 475
What is your max bench press? 345
What is your max deadlift? 475

Max Squat:               475
Max Bench Press:         345
Max Deadlift:            475

Powerlifting Total:     1295
Wilks Score:         773.892
```

Run 2

```
What is your max squat? 305
What is your max bench press? 195
What is your max deadlift? 410

Max Squat:               305
Max Bench Press:         195
Max Deadlift:            410

Powerlifting Total:      910
Wilks Score:         543.816
```

Run 3 (British Powerlifting record set by 51-year old Sam Watt)

```
What is your max squat? 716
What is your max bench press? 430
What is your max deadlift? 810

Max Squat:               716
Max Bench Press:         430
Max Deadlift:            810

Powerlifting Total:     1956
Wilks Score:        1168.906
```