: Body Mass Index Calculation

One way to determine the amount of fat in a person is to divide the person's weight in kilograms by the square of the height in meters. Another strategy to determined the fat content is given by the following formulas:

Body fat formula for females:

- A1 = (body weight * 0.732) + 8.987
- A2 = wrist measurement (at fullest point) / 3.140
- A3 = waist measurement (at navel) * 0.157
- A4 = hip measurement (at fullest point) * 0.2.49
- A5 = forearm measurement (at fullest point) * 0.434
- B = A1 + A2 + A3 + A4 + A5
- Body fat = body weight - B
- Bady fat percentage = Body fat * 100 / body weight

Body fat formula for males:

- A1 = (body weight * 1.082) + 94.42
- A2 = wrist measurement / 4.15
- B = A1 - A2
- Body fat = body weight - B
- Bady fat percentage = Body fat * 100 / body weight

Write a program that calculates the fat content in females and males using both strategies, and compare them by outputting the results on a tabular format side by side. Use at least two entries for each gender, but the program should accept an arbitrary number of samples. The program should also be able to read from and write to a file.

Perform a *typescript* session to capture the interaction with the program as usual.

1. `script hw02.scr`

2. `date`
3. `ls -l`
4. `g++ hw02.cpp -o hw02`
5. `ls -l`
6. `./hw02`
7. *// interact with the program (enter values, etc...)*
8. hold down the control key and press d to issue the EOF signal

Create a `tar` package file `hw02.tar` that includes all the files:
`tar cf hw02.tar hw02.h hw02.cpp hw02.scr`

Submit the `tar` package file `hw02.tar` to canvas by the due date on top of this page.