Program Assignment – Session 4

The Cockcroft-Gault formula can be used to estimate GFR in patients age 18 and over.

Write a program that would allow a health care professional to enter a patient's body weight (kg), serum creatinine (mg/dL) and gender. Have the program return the creatinine clearance (estimated GFR) and what stage of kidney disease the patient is in based off the eGFR.

Cockcroft-Gault Formula for Estimating Creatinine Clearance

$$CrCl \ (mL/min) = \frac{(140 - age) \times Lean \ Body \ Weight \ (kg)}{Serum \ Creatinine \ (mg/dL) \times 72} \ (\times \ 0.85 \ if \ female)$$

STAGES OF CHRONIC KIDNEY DISEASE		GFR*	% OF KIDNEY FUNCTION
Stage 1	Kidney damage with **normal** kidney function	90 or higher	90-100%
Stage 2	Kidney damage with **mild loss** of kidney function	89 to 60	89-60%
Stage 3a	**Mild to moderate** loss of kidney function	59 to 45	59-45%
Stage 3b	**Moderate to severe** loss of kidney function	44 to 30	44-30%
Stage 4	**Severe** loss of kidney function	29 to 15	29-15%
Stage 5	Kidney **failure**	Less than 15	Less than 15%

* Your GFR number tells you how much kidney function you have. As kidney disease gets worse, the GFR number goes down.