11.4.#B-3:

1. The experimental unit is a person. i.e. aerobic students.
2. The experimental units belong to one population, i.e., aerobic students. (1- sample location)
3. Two measurements were taken on each experimental unit:
4. Number of watts expended during protocol S (30-minute ride on the first week)
5. Number of watts expended during protocol D (30-minute ride on the second week)

(d) Let Si be the score on protocol S for student i, and let Di denote score on protocol D for student i.ϻ

Then, Xi = Di -Si is the random variable of interest. We are interested on drawing inferences about ϻ.

(e) ϻ > 0 iff Di > Si. Thus, to test the theory in favor of dynamic stretches we might want to test H0 : ϻ≤ 0

vs. H1 : ϻ> 0.

11.4.#C-1: 2-sample location problem

1. The experimental unit is a middle-aged man.

(b) The experimental units belong to one of two populations:

i. Type A heavy men.

ii. Type B heavy men.

(c) One measurement (cholesterol level) were taken on each experimental unit.

(d) Let Xi denote the cholesterol level for man i (Type A).

Let Yj denote the cholesterol level for man j (Type B).

Then, X1;X2……;Xn1 ~ P1; Y1; Y2……..; Yn2 ~P2.

We are interested on drawing inferences about Δ = ϻ1-ϻ2

(e) Δ > 0 iff ϻ1 > ϻ2. Thus, to document that Type A have higher cholesterol than Type B, we might want

to test H0 : Δ≤ 0 vs. Ha : Δ > 0.