Practice Coding Problems
Factorial Analysis-of-Variance

1. An educational psychologist is interested in the effects of two factors on achievement. The first factor is gender (male, female). The second factor is the type of goal structure set up within the classrooms (individualistic, competitive or cooperative).

2. A clinical psychologist is interested in the effects of number of therapy sessions (1, 15, or 30) and type of therapy (Gestalt, psychoanalytic, Rogerian, or behavior modification) on clients' satisfaction with therapy.

3. An exercise physiologist is interested in the effect of weight training on muscle development in women. Subjects are assigned to one of the four cells formed by the training variable (training or no training) crossed with an age variable (under 30 vs. over 30 years old).

4. A drug manufacturer is interested in the efficacy of a new product. The company is experimenting with three dosage levels (1 mg, 2 mg, and 3 mg) and three means of ingestion (capsules, tablets, and a liquid). The levels of these two factors are crossed experimentally and their effectiveness assessed.

5. A statistics professor is interested in the effects of three forms of examinations (difficult items first, difficult items last, difficult items randomly scattered) and major (psych vs non-psych) on perfomance on the final exam.

6. A researcher studied the effects on memory of two anesthetics normally administered before minor operations. The experimenter read words to the subjects while they were under the anesthetic. The dependent measure was the number of words correctly remembered two hours later. The first factor consisted of drug Y or drug X, the second factor consisted of words with low emotional impact or words with high emotional impact. The third factor was whether English was the subject's first language, second language, or only language. The dependent measure was number of words correctly remembered.