```sas
/* Lab 2: Sample size calculation for two groups comparison */

/* 1. Assuming Equal Variances for two samples */
    /* a) balanced design */
    proc power;
        twosamplemeans test=diff
            meandiff = 7
            stddev = 12
            npergroup = 50
            power = .;
    run;

        proc power;
        twosamplemeans test=diff
            meandiff = 7
            stddev = 12
            npergroup = .
            power = 0.8;
    run;

    /* b) unbalanced design, using "groupweights" for sample size calculation, or "groupns" for power calculation */
    proc power;
        twosamplemeans test=diff
            groupmeans = 8 | 15
            stddev = 4
            groupweights = (2 3)
            ntotal = .
            power = 0.9;
    run;

        proc power;
        twosamplemeans test=diff
            groupmeans = 8 | 15
            stddev = 4
            groupns = (40 60)
            power = .;
    run;

 /* 2. assuming unequal variances   */
    /* for power */
    proc power;
        twosamplemeans test=diff_satt
            meandiff = 3
            groupstddevs = 5 | 8
            groupweights = (1 2)
            ntotal = 60
            power = .;
    run;

    /* or */

        proc power;
        twosamplemeans test=diff_satt
            meandiff = 3
            groupstddevs = 5 | 8
            groupns = (20 40)
            power = .;
    run;


/* for sample size */
        proc power;
        twosamplemeans test=diff_satt
            meandiff = 3
            groupstddevs = 5 | 8
            groupweights = (1 2)
            ntotal = .
            power = 0.8;
            run;
```