These instructions apply to the IBM PCjr. Slight modifications are required for the IBM PC.

Insert the "Math 212" disk, turn the monitor on and turn the computer on. The computer performs a self diagnosis and then will automatically boot and print a MENU.

Some helpful tips:

1. KEY OFF and KEY ON turn the "keys" off and on from the bottom of the screen. These keys are controled by the Fn and number keys.

2. SCREEN 1 is a 40 column screen, SCREEN 2 is an 80 column screen.

3. SYSTEM will get you from BASIC to the Disk Operating System (DOS). NEWBAS will get you from DOS to BASIC.

4. In BASIC, "LOAD "MENU"" will load the program named "MENU".

5. To run a program that is in the computer, type RUN.

6. Before you enter a new program, type NEW.

7. To have the computer automatically number lines for you, type AUTO or type Alt A. After you have entered the last line of your program, type Fn BREAK.

Some sample programs:

**Example 1.** After you have entered this program, type RUN.

```
10 CLS : KEY OFF : SCREEN 1
20 PRINT "OPUS"
30 END
```

**Example 2.** Replace line 30 with "30 GOTO 20". To do this, you may simply type "30 GOTO 20" or you may list the program and use the arrow keys to type over END.

```
10 CLS : KEY OFF : SCREEN 1
20 PRINT "OPUS"
30 GOTO 20
```

**Example 3.** Add a comma after "OPUS"

```
10 CLS : KEY OFF : SCREEN 1
20 PRINT "OPUS",
30 GOTO 20
```
Introduction To the Terminal
Math 212 – April 22, 1986

The purpose of this handout is to familiarize the user with computer terminals and to introduce the user to the edit functions and other commands on the VAX. After gaining some knowledge about commands, the user will be taken through the process of creating a file and performing text manipulations.

PART I: LOGGING ON AND OFF

1. Turn the terminal on (the switch is on the left rear). Hit the 'RETURN' key - this will be denoted <RET> - to get a response from the computer. Eventually the computer will show:

   ENTER CLASS: V2 [or whatever VAX your account is on] <RET>
   GO <RET> <RET>
   USERNAME: [input account name] <RET>
   PASSWORD: [input your password] <RET>

If all went well, you are now into your account and will see a "$", which tells you that the computer is ready for a command. If you were not successful, just hit 'RETURN' a couple of times and try again. At the end of a session on the terminal, when you are finished with the terminal, wait for the "$" and type 'LO' which stands for 'Log Off.' Wait for the computer to acknowledge that you logged off, and then turn off the terminal.

PART II: BASIC TERMINAL KEY FUNCTIONS

1. 'CTRL U': This key combination deletes the entire line to the left of the cursor. This is used if you type in most of a line and then decide that you don't want to enter it. Simply hold down the 'CTRL' key and type 'U'.

2. 'CTRL Y': If you start something that you decide to stop, just type 'CTRL Y' and anything that the computer is doing will be interrupted. Hold down the 'CTRL' key while typing a 'Y'. The computer then will show the "$" and is ready for your next command.

3. 'DELETE': This key will delete the character immediately to the left of the cursor. If you don't catch an important error before you hit 'RETURN,' the computer will print out 'UNRECOGNIZED COMMAND' and wait for a new command.

4. 'RETURN': When the "$" is present, this key must be pressed after command lines in order for the computer to process the command.

PART III: FILES AND WORD COMMANDS

In an office, a file is a folder where you store information pertaining to a subject. This is similar to the computer definition of a file. A computer file can be a storage area of data to be used as input, a storage area for data that was output from a program, the program itself, and many
FILE NAMES and USAGE

We will give each SPSS-X project a unique name which is then used for specifying file names. For this discussion we will use the name STATPROG.

There are three distinct phases of operation:

1. Data collection, entry, and editing
2. Describing the data in SPSS-X
3. Processing the desired statistics in SPSS-X

We will use several files for each project. The file types can be the choice of the user, but they should function the same in every project. The choices indicated below seem reasonable and functional.

1. STATPROG.DAT
   This contains the raw data. This is usually built with the editor, created from a magnetic tape, or created with a data entry program.

2. STATPROG.SRC
   This is the SPSS-X program for describing the data. This contains the DATA LIST, VARIABLE LABELS, VALUE LABELS, RECODE, MISSING VALUES, etc. commands.

3. STATPROG.SYS
   This is the so-called SPSS-X system file. It contains the raw data plus the SPSS-X data descriptions and transformations made in STATPROG.SRC. This file is never printed nor edited.

4. STATPROG.RUN
   This is the file of SPSS-X commands which produce the desired output. It is usually rather short and contains the procedure commands (FREQUENCIES, CROSSTABS, BREAKDOWN, etc.).

5. STATPROG.OUT
   This is an optional file for output in case the user wants to review the results before they are printed.

6. STATPROG.JOB
   This file contains the job control commands to run the various functions described above.
Process A creates the SPSS-X system file from the raw data using the data descriptions contained in STATPROG.SRC.

Process B produces the statistical output. It is usually run several times with variations of STATPROG.RUN.
1. STATPROG.SRC

FILE HANDLE PROJECT NAME = "STATPROG.DAT"
DATA LIST
   FILE = PROJECT
   RECORDS = 3 /
   VAR001 TO VAR167
   (46 F1 / 73 F1 / 48 F1)
VARIABLE LABELS
   VAR001 'RATING OF PRODUCT'
   VAR053 'EDUCATIONAL LEVEL'
   VAR161 'SEX'
VALUE LABELS
   VAR001 TO VAR046
      1 'GOOD'
      2 'BETTER'
      3 'BEST'/
   VAR053
      1 'H.S.'
      2 'COLLEGE'/
   VAR161
      1 'FEMALE'
      2 'MALE'/
MISSING VALUES
   VAR161(0,3,9)
FILE HANDLE PROJ NAME = "STATPROG.SYS"
SAVE OUTFILE = PROJ
FINISH

2. STATPROG.RUN

FILE HANDLE PROJECT NAME = "STATPROG.SYS"
GET FILE = PROJECT
CROSSTABS TABLES = VAR001 TO VAR046 BY VAR161
OPTIONS 3 4 5
RECODE
   VAR126
      (1=4)
      (2=16)
      (3=21)
      (4=29)
      (5=35)
BREAKDOWN TABLES = VAR126 BY VAR053
FINISH
3. STATPROG.JOB – several variations
   a) SPSSX STATPROG.SRC
      Produces system file and printed output
   b) SPSSX STATPROG.RUN
      Produces printed output of statistics
   c) ASSIGN STATPROG.OUT SYS$OUTPUT
      SPSSX STATPROG.RUN
      DEAASSIGN SYS$OUTPUT
      Produces output of statistics in disk file STATPROG.OUT
      or SPSSX/OUTFILE = 'STATPROG.OUT' STATPROG.RUN

Printing of output already produced on a disk file

$ PRINT STATPROG.OUT

Submitting a job to be run

$ SUBMIT/NOFITY STATPROG.JOB
FILE HANDLE SUMMER NAME = 'VACATION.DAT'
DATA LIST
FILE = SUMMER
RECORDS = 1/
ID 1-2 COND 3 GENDER 4 CLASS 5 EFFEMASC 6-7 LIBLCONS 8-9
WELLSHAB 10-11
VARIABLE LABELS
COND 'LABEL MANIPULATION'
EFFEMASC 'EFFEMINATE/MASCUINE'
LIBLCONS 'LIBERAL/CONSERVATIVE'
WELLSHAB 'WELL/SHABBILY DRESSED'
VALUE LABELS
COND
1 'FEMINIST'
2 'NONFEMINIST'/
GENDER
1 'MALE'
2 'FEMALE'/
CLASS
1 'FRESHMAN'
2 'SOPHOMORE'
3 'JUNIOR'
4 'SENIOR'/
MISSING VALUES
EFFEMASC TO WELLSHAB (99)
COND, GENDER, CLASS (9)
FILE HANDLE KAREN NAME = 'VACATION.SYS'
SAVE OUTFILE = KAREN

Job File
ASSIGN VACATION.OUT SYS#OUTPUT
SPSSX VACATION.RUN
FILE HANDLE PEANUT NAME = 'VACATION.SYS'
GET FILE = PEANUT
ANCOVA EFFEMASC BY GENDER (1,2) COND (1,2)/
STATISTICS 3
FINISH
### Analysis of Variance

**EFFEMASC EFFEMINATE/MASCULINE**

**BY**
- GENDER
- COND
- LABEL MANIPULATION

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Signif of F</th>
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<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
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<tr>
<td>GENDER</td>
<td>10.300</td>
<td>2</td>
<td>5.150</td>
<td>2.442197</td>
<td>0.094</td>
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<tr>
<td>COND</td>
<td>1.191</td>
<td>1</td>
<td>1.191</td>
<td>0.5649717</td>
<td>0.455</td>
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<tr>
<td><strong>2-Way Interactions</strong></td>
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<tr>
<td>GENDER COND</td>
<td>10.129</td>
<td>1</td>
<td>10.129</td>
<td>4.803274</td>
<td>0.032</td>
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<tr>
<td><strong>Explained</strong></td>
<td>9.972</td>
<td>1</td>
<td>9.972</td>
<td>4.728740</td>
<td>0.033</td>
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<tr>
<td><strong>Residual</strong></td>
<td>9.972</td>
<td>1</td>
<td>9.972</td>
<td>4.728740</td>
<td>0.033</td>
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<tr>
<td><strong>Total</strong></td>
<td>145.508</td>
<td>69</td>
<td>2.109</td>
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<tr>
<td><strong>Total</strong></td>
<td>165.781</td>
<td>72</td>
<td>2.303</td>
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</table>

78 cases were processed.
5 cases (6.4 PCT) were missing.
USE THE COMMAND: INFO OVERVIEW for more information on:

* reading OSIRIS datasets
* ALSCLL: multidimensional scaling
* USERGET: USERPLOC-like interface to create active files
* changes to USERPLOC routines
* time and date formats and functions
* UPDATE transactions to system files
* EXPORT for data communications
* multipunched data and bit fields
* simplified REGRESSION command

1 0 FILE HANDLE PEANUT NAME = 'VACATION.SYS'
2 0 GET FILE = PEANUT

FILE CALLED PEANUT:
LABEL:
CREATED 18-APR-86 10:07:45 7 VARIABLES

3 0 ANOVA EFFEMASC BY GENDER (1,2) COND (1,2)/
4 0 STATISTICS 3

'ANOVA' PROBLEM REQUIRES 365 BYTES OF MEMORY.
<table>
<thead>
<tr>
<th></th>
<th>EFFEMASC</th>
<th>EFFEMINATE/MASUCLINE</th>
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<tbody>
<tr>
<td><strong>TOTAL POPULATION</strong></td>
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<tr>
<td></td>
<td>3.95</td>
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<tr>
<td></td>
<td>(73)</td>
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<tr>
<td><strong>GENDER</strong></td>
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<tr>
<td>1</td>
<td>4.00</td>
<td>3.90</td>
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<td>(32)</td>
<td>(41)</td>
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</tr>
<tr>
<td><strong>COND</strong></td>
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<td>(39)</td>
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