Starting LINDO: Log on to a Windows machine using your SNDS account and then open `Start -> Programs -> Mathematics Software -> Lindo` to run Lindo. Lindo is also available on sac.uky.edu and the Macintosh machines.

Sample session: Below is a sample session with LINDO. You should type the commands in the `typewriter` font, LINDO's responses are in the roman font and comments are in *italic.*

Note that when you use the file commands you must give a full path including a disk where you are allowed to write (either D: for temporary storage or A: for a floppy). If you do not include a disk, Lindo will try to write to the network which fails and leads to a crash. Lindo writes text files `.txt`, if you fail to include the extension, you can still open and print the file by right-clicking on the file, using the `Open with..` entry on the menu and then selecting Word pad.

After you have saved your output (on the D: drive in the example below), you print the file by right-clicking on the file and using the print command on the menu. You may copy the output to a floppy disk using the standard Windows procedures for copying files.

:	
`min 75x + 100y`	*Enter max or min and objective function.*
?	
`subject to`	
?	
`3x+y >=3`	*Enter constraints*
?	
`x+y >= 2`	
?	
`x+4y >= 4`	
?	
`end`	*End entry of linear program.*
:	
`look all`	*Lindo responds by typing out the problem.*
: ...	*Lindo's output is omitted.*
`save D:\test`	*Save problem to file named test.*
:	*The file test may be read into Lindo using* `retr`.
`dive D:\file.txt`	
`look all`	*Display problem.*
:	*This time, there is no output to the screen.*
`go`	*Solve the linear program.*
Do range (sensitivity) analysis?	
?	*We will learn about this later.*
`no`	
:	

`rvrt`	*Revert, output no longer goes to file.*
	If you wish, repeat the command `go` *to see the output.*
`alter`	*This comand is used to change a coefficient.*
ROW:	*Which row? The objective function is in Row 1*
2	*Change row 2 which contains the first constraint.*
VAR:	*Lindo prompts for the variable or RHS.*
`x`	*Change the coefficient of x.*
NEW COEFFICIENT:	*Lindo prompts for the new coefficient.*
`4`	*Change the term $3x$ in row 2 to $4x$.*
`go`	*To find the new solution, type* `go` *again.*
...	*Output omitted.*
:	
`quit`	*Quit LINDO.*

Printing and file commands:

Below is a list of all LINDO commands. Use `help [command name]` to find out more about each command. You may find it useful to use the problem editing commands in group 6 to correct typing errors. In particular, the `alter` command may be used to change coefficients. When we learn about simplex tableau, you can use the `tableau` command to examine a problem and the `pivot` command to carry out one step of the simplex method. Notice also the difference between the commands `save` and `dive`. The command `save` saves the problem in a form understandable only to Lindo. The result of a save command may be read back into LINDO using the `retr` command. The command `dive` is used to save output as a text file.

```
LINDO COMMANDS BY CATEGORY.  FOR INFORMATION
ON A SPECIFIC COMMAND,  TYPE "HELP" FOLLOWED
BY THE COMMAND NAME.

  1)INFORMATION
     HELP    COM     LOCAL   CAT     TIME    DATE

  2)INPUT
     MAX     MIN     RETR    RMPS    TAKE    LEAV    RDBC
     FBR     FINS

  3)DISPLAY
     PIC     TABL    LOOK    NONZ    SHOC    SOLU    RANGE
     BPIC    CPRI    RPRI    DMPS    PPIC

  4)FILE OUTPUT
     SAVE    DIVE    RVRT    SMPS    SDBC    FBS     FPUN
```

```
   SMPN

 5)SOLUTION
   GO      PIV     GLEX

 6)PROBLEM EDITING
   ALT     EXT     DEL     SUB     APPC    SLB     FREE

 7)QUIT
   QUIT

 8)INTEGER, QUADRATIC,  AND PARAMETRIC PROGRAMS
   INT     QCP     PARA    POSD    TITAN   BIP     GIN
   IPTOL

 9)CONVERSATIONAL PARAMETERS
   WIDTH   TERS    VERB    BAT     PAGE    PAUS

10)USER SUPPLIED ROUTINES
   USER

11)MISCELLANEOUS
   INV     STAT    BUG     DEB     SET     TITL
```

Below are two problems to solve using LINDO.

1. You want to start a business which will make tables, chairs and desks. You have only 100 units of wood available and you know that it takes 6 units of wood to make a table, 4 units to make a chair and 5 units of wood to make a desk. You also have the constraint that you only have 600 hours of labor available to you. It takes 10 hours to make a table, 15 hours to make a chair and 20 hours to make a desk.

   If you can earn a profit of $60 per table, $50 per chair and $40 per desk, how many of each should you produce to maximize your profit? How much profit will you make?

2. We change our process so that now a chair will require 5 units of wood, but the desks will only take 2 units of wood. This new type of chair will now take 35 hours to build. All else remains the same.

   How many of each product should we make now? What is our profit?