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NETWORK BASICS

- access: this is the Student Network (same username, probably also same password as on the Academic Network); temporary accounts exist for those not “in the system” yet,
- to print (usually not needed here), you need to put money on your account,
- your personal directory: m/p–drive or My Documents; if you use a temporary account, put your files in a named folder,
- you *cannot* log in to the Academic Network here; suggested to save files on student network and access them from your own computer, or to use flash drive/memory stick.

PRACTICAL INFORMATION

Outline of lab session:

- review: mean, median, percentiles, standard deviation (pages 1L–17,18,19,20,21),
- introduction to Minitab software,
- individual work on the exercises.

Today's exercises:

- Meet Minitab (version 13), Chapter 8 (tutorial) + 1: 1,10,16,42,72; x:1; 1:65,51 (1:22,77; x:2),
- note suggested order; exercises in parenthesis are optional (maybe check if they seem to be useful for you).

Notes and questions for specific exercises:

- Meet Minitab: see slide 1P–6 for notes on tutorial,
- 1.10, 1.16, 1.42, . . .: numbers refer to Supplementary Exercises for IPS7e, accessible at homepage (below schedule table),
- x.1, x.2: extra exercises (at Solutions . . . webpage),
- x.1: use statistical applet (link to applets at course homepage, below schedule table),
- 1.10, 1.16, 1.42, 1.51: data files `ex01_010`, `ex01_016`, etc. are available at h-drive in Minitab and .csv formats.

WHERE IS ...

- Course homepage: people.upei.ca/hstryhn/vhm801 (Google “vhm801”),
- Software:
 - Minitab, version 17: via Start—Programs menu,
 - Stata, versions 12/13 (no Stata 14):
via Start—Student Programs—AVC menu,
- Exercise problem:
 - * standard (e.g. 1.16): in file containing Supplementary Exercises for IPS7e, accessible at homepage (below schedule table),
 - * extra (e.g. x:1): at Solutions and do-files page (link at course homepage),
- Exercise datasets: in subdirectories `h:\VHM\VHM801\Datasets\Minitab` or `csv`,
- Exercise solutions (except some optional exercises): at Solutions etc. page (link at course homepage),
- extra Minitab stuff in `h:\VHM\VHM801\divMinitab`:
 - * Meet Minitab guide (versions 15 and 16),
 - * Getting Started with Minitab 17 guide,
 - * installers for 30-day trial versions of Minitab 15/17 (don't try to install it here!!).

BASICS OF MINITAB

- contains an interactive, menu-based user interface and a simple high-level programming language,
- data represented as worksheets
 - ordinary worksheets with rows \sim observations (“individuals”) and columns $c_1, c_2 \dots \sim$ variables,
 - “constants” k_1, k_2, \dots (plain numbers/variables),
 - matrices (we won’t use these).
- data input: use **File-Open Worksheet** menu to import Minitab worksheets (*.mtw), comma-separated files (*.csv) and other standard file formats,
- key windows:
 - worksheet window (Ctrl-D): data,
 - session window (Ctrl-M): results and commands,
- other sometimes useful windows:
 - project manager window (Ctrl-I): worksheet summary, constants and matrices, plus access to history (previous commands executed), graphs etc.,
 - command line editor (Ctrl-L): manual entry of commands (also in session window, if enabled),
- help: lots!! (menu-specific, tutorials, StatGuide. . .)
- save work as *project files* (*.mpj) or save separate windows (worksheet \rightarrow *.mtw, session window \rightarrow *.txt).

HINTS ON SETTINGS AND PRACTICES

Settings:

- session window settings (menu **Editor**):
Output editable and
Enable commands (to get commands printed and enable commands in the session window),
- maybe make project visible,
- maybe remove toolbars: **Worksheet**, **Graph editing**, **Graph annotation**,
- save your settings using **Tools-Options-Window Layout**.

Documenting your work:

- natural places to write comments about your analysis are in the session window (provided it is editable) or the ReportPad window (accessible from the Project window), see Minitab tutorial for details,
- avoid too much editing in the worksheet, because the changes you make are
 - i) undocumented,
 - ii) risky (you may make errors without noticing),instead use menus and commands to achieve your aims.
- you can list data in the session window using **Data-Display Data**.

CALCULATIONS AND DATA MANIPULATIONS

Calculator (Calc-Calculator):

- a powerful calculator with lots of built-in functions,
- works both on columns and constants,
- if you want to store a result in a constant with a name, use first k1 (or k2...) and rename it in the command (session) window as follows: `name k1 'myname'`.

Generating patterned columns

(Calc-Make Patterned Data):

- very often you'll need to generate columns with a pattern, e.g. row numbers,
- several easy-to-use variants, try them and see the result!

Manipulating columns (Data menu):

- to copy and delete columns,
- to sort columns (all or some — be careful not to mess up the worksheet!),
- to stack or unstack columns (very useful for reshaping the data):
 - * stack: put one column after another one,
 - * unstack: split a column into several columns.

NOTES FOR MEET MINITAB TUTORIAL

Changes and recommendations when going through Steps 1–13 of the tutorial using Minitab version 17:

- (2): data file in h-drive folder:
in VHM\VHM801\Datasets\Minitab\Xtra,
- (3): you may go to Step 7 first, and tick “Assign as a formula” before OK’ing the calculation, (then you’ll get a demonstration of how the formula works when you type in further data in Step 3),
- (5): save in your personal directory (on m-drive, or memory stick),
- (7): use the “hat” symbol (e.g. $\hat{2}$) instead of “**” for powers,
- (8): use **Graph-Scatterplot-Simple** menu,
- (10): this is a demonstration of how to use the Session window to document the analysis — it is recommended to remove redundant parts of the session window after finishing the analysis; alternative methods:
 - * ReportPad window: allows to include both text (copied from session window or typed in) and graphs (right-click on active graph),
 - * copy/paste to Word: same advantages as Report-Pad window but creates an extra file,
- (11): skip the printing.