**Introduction to Spreadsheets for Data Analysis**

Module 1

1. Basics of Spreadsheets
   1. Applications
      1. Excel (Most Common)
      2. Excel for the web (Online Version)
      3. Google Sheets (Web Base)
      4. Libre Office Calc
      5. Zoho Sheets (Web base)
      6. Open Office Calc
      7. Quip
      8. Smartsheet
      9. Apple Numbers
   2. Advantages \*1970s -> now
      1. Accurate
      2. Automatic
      3. Organize and access data
      4. Format, Filter, and sort
      5. Edit, Undo and error check
      6. Analyse data
      7. Create Charts
   3. Uses
      1. Business and Personal Uses
      2. Collecting Data
      3. Cleaning Data
      4. Analysing Data
2. Spreadsheet terminology
3. The interface – Navigating Around a Spreadsheet
   1. Shortcuts
      1. Crtrl-F1 or Double-Clicking Ribbons
      2. Crtrl+home - Start
      3. Crtrl+End – End
      4. Crtl+Up - First
      5. Crtl+Down – Last
      6. Crtl+A – Selects all Data

The table below lists keyboard shortcuts for some of the most common Excel tasks.

| **Task** | **Shortcut** |
| --- | --- |
| Close a workbook | Ctrl+W |
| Open a workbook | Ctrl+O |
| Save a workbook | Ctrl+S |
| Copy | Ctrl+C |
| Cut | Ctrl+X |
| Paste | Ctrl+V |
| Undo | Ctrl+Z |
| Remove cell contents | Delete |
| Bold | Ctrl+B |
| Open context menu | Shift+F10 |
| Expand or collapse the ribbon | Ctrl+F1 |
| Move up one cell in the worksheet | Up arrow key |
| Move down one cell in the worksheet | Down arrow key |
| Move one cell left in the worksheet | Left arrow key |
| Move one cell right in the worksheet | Right arrow key |
| Move to the edge of the current data region in the worksheet (e.g. end of column) | Ctrl+Arrow key (e.g. Ctrl+Down arrow) |
| Move to the last cell on a worksheet | Ctrl+End |
| Move to the beginning of a worksheet | Ctrl+Home |
| Extend the selection of cells to the last used cell on a worksheet (lower right corner) | Ctrl+Shift+End |
| Move to the cell in the upper-left corner of the window (when Scroll Lock is On) | Home+Scroll Lock |
| Move one screen down in a worksheet | Page Down |
| Move one screen up in a worksheet | Page Up |
| Move one screen to the right in a worksheet | Alt+Page Down |
| Move one screen to the left in a worksheet | Alt+Page Up |
| Move to the next sheet in a workbook | Ctrl+Page Down |
| Move to the previous sheet in a workbook | Ctrl+Page Up |
| Edit the active cell and put the cursor at the end of the cell's contents | F2 |
| Enter the current time | Ctrl+Shift+colon (:) |
| Enter the current date | Ctrl+semi-colon (;) |

Formatting

In this lesson, you have learned:

* There are several spreadsheet applications available in the marketplace; the most commonly used and fully-featured spreadsheet application is Microsoft Excel.
* Spreadsheets provide several advantages over manual calculation methods and they help you keep data organized and easily accessible.
* As a Data Analyst, you can use spreadsheets as a tool for your data analysis tasks.
* There are several elements that make up a workbook in a spreadsheet application.
* The ribbon provides access to all the features and tools required to view, enter, edit, manipulate, clean, and analyze data in Excel.
* There are several ways to navigate around a worksheet and workbook in Excel.

Module 2

1. Selecting, Entering and Editing Data
2. Copying and Auto-Filling Data
3. Formatting Data
4. Using Functions and Formulas
   1. Functions
      1. SUM (alt+=)
      2. (B5) CELL reference
      3. Operators (\*)
      4. 20 Constants
      5. Statistical Cal
         1. Avg
         2. Min
         3. Max
         4. Count (Number of Values in the selected range)
         5. Median
   2. List of error code
      1. #N/a
      2. #Name?
      3. #Null!
      4. #REF!
      5. #VALUE!
      6. #DIV/0!

In this lesson, you have learned:

* There are several features to modify views in Excel, and it is very straightforward to enter and edit data in a spreadsheet.
* You can move or copy data within a worksheet or between worksheets, and you can use AutoFill to automatically enter data that is in a series or that fits a pattern.
* You can format both cells and data in Excel.
* A formula is made up of several component parts, and formulas can perform calculations using numbers directly or by using references to data in the worksheet.
* You can use the Fill Handle in Excel to quickly copy formulas to other cells.
* There are several different categories of function you can use for different purposes, and you can search for a function by name, or by category.
* You can reference cells in the worksheet in your formulas by using relative, absolute, or mixed references.
* You can make a formula absolute by adding a dollar symbol ($) to a cell reference.
* If you get errors in your formulas, you can use the error-checking capabilities of Excel to resolve them.