

# Applications Programming

Introduction to Excel

# Spreadsheet

- A spreadsheet is a rectangular table (or grid) of data.
- Definition from Wiki: A spreadsheet is a computer application that simulates a paper worksheet. It displays multiple cells that together make up a grid consisting of rows and columns, each cell containing either alphanumeric text or numeric values.
- It comes from the format used to present bookkeeping ledgers.
  - columns for categories of expenditures across the top
  - invoices listed down the left margin
  - the amount of each payment in the cell where its row and column intersect

# Commonly Used Spreadsheet Products

- Microsoft Excel
- Apple Numbers
- Open Office Calc
- (already dead) IBM Lotus 1-2-3

# Excel Screen Features

- What you see is what you get
- Menu Bar
- Quick Access toolbar
- Title bar
- Ribbons
- Formular bar
- Name box for active cell
- Status bar
- View buttons

# Organization of Excel

- Workbooks (file with extension name .xlsx)
- Worksheets
- Rows: identified by numbers (used to be 1 to 65536; now 1 to 1048576)
- Columns: identified by letters (used to be A to Z and AA to IV, 256 columns in total; now A to Z, AA to ZZ, and AAA to XFD, 16384 columns in total)
- Cells: a box for holding data. Usually referenced by its column and row identifiers.

# Excel Workbook

- Memory data vs Disk data (file)
- Save memory data to disk/Save to file
- Open a new/blank Excel file
- Open an existing Excel file
- Close an Excel file

# Worksheet

- A worksheet is a matrix of cells.
- A workbook may contain multiple worksheets.
- Each worksheet has a name as its identification.
- Worksheet's names can be changed (rename).
- Add a new worksheet into a workbook (insert)
- Copy a worksheet
- Delete a worksheet
- Move a worksheet to change the order

# Navigating Worksheet

- Active workbook, active worksheet and active cell
- Activating and selecting cells
- Selecting whole columns or rows
- Inserting and deleting cells (or columns or rows)
- Clearing content in cells
- Copying cells with only values
  - Copy and paste
  - Paste Special



# Enter Data

- Manually entered data always goes into the active cell.
- Fill handle, Series and Autofill
- Formatting a cell
  - Entered data will have different presentation when the cells are formatted differently
  - Common cell formats

# Formatting Cells

- Number formatting: change the appearance of numbers, dates, and times
- Alignment: change the way cell contents are aligned within the cell
- Font formatting: change the appearance of text and number characters
- Borders: choose the line appearance around cells
- Fill: add colour, shading and patterns to cells
- Column and row formatting: change column width and row height