

VBA w MS Excel – Advanced Level

Data analysis

Training objectives

This training course is to empower participants' expertise while doing their job, thus:

1. Understand the mechanism supporting data analysis (such as autofilter, pivot tables and date/time functions)
2. Understand chart designs created in spreadsheets
3. Enhance skills in creating reliable and effective algorithms
4. Develop a set of ready-to-use procedures – useful tools to apply in daily work.

Skills

After this training course, the participant will be able to do the following in an automated way:

- analyze and model data using pivot tables,
- analyze data based on date/time,
- visualize the status based on the data collected in a worksheet (such as, “warning status” and “emergency status” of inventory, company resource loads, etc.),
- analyze databases created in spreadsheets,
- present calculation results using diagrams.

Profile

This training course is intended for individuals who, among other things:

- analyze large amount of data collected in spreadsheets,
- are in charge of stock level control and logistics (using spreadsheets),
- prepare extensive lists and reports based on pivot tables.

It is intended, inter alia, for analysts, accountants, warehousemen, production support/organization employees.

Preparation

Required knowledge:

- very good practical knowledge of MS Excel (participants should use intensively MS Excel in daily work),

- taken training course “VBA in MS Excel – Beginners Level. Basics of computer programming” and “VBA in MS Excel – Intermediate Level. Worksheets, workbooks, files” (or knowledge and background of the training material).

Syllabus

1. Start of the training course – organizational matters
2. Conditional cell formatting
 - 2.1. Differences in conditional formatting between MS Excel versions
 - 2.2. Conditional format operations
 - 2.2.1. How to remove cell formatting conditions
 - 2.2.2. How to add formatting conditions for cell
 - 2.2.3. Workshops
 - 2.3. Ways to prevent/cope with conditional formatting errors
3. Autofilter
 - 3.1. Using autofilter
 - 3.1.1. How to enable/disable autofilter
 - 3.1.2. How to filter by values in one column
 - 3.1.3. How to filter by values in two columns
 - 3.1.4. How to filter texts using text format
 - 3.1.5. How to show from-to number range
 - 3.1.6. How to use “Top 10” mechanism
 - 3.1.7. How to clear filter criteria
 - 3.1.8. Workshops
4. Pivot tables
 - 4.1. How to insert pivot table into worksheet
 - 4.1.1. How to check the number of aggregates in a workbook
 - 4.1.2. How to create a pivot table
 - 4.1.3. How to check the number of pivot tables in a worksheet
 - 4.1.4. How to change the pivot table view (from “new” to “classic”)
 - 4.1.5. How to check data type in a field
 - 4.1.6. How to add fields to a pivot table
 - 4.1.7. How to count fields in pivot table areas
 - 4.1.8. How to list field names (from data range)
 - 4.1.9. How to remove selected grouping fields
 - 4.1.10. How to clear pivot table
 - 4.1.11. How to select and remove pivot table
 - 4.1.12. Workshops
 - 4.2. Data field configuration
 - 4.2.1. How to enter the current name of the searched data field
 - 4.2.2. How to set the grouping/calculation function
 - 4.2.3. How to change field order
 - 4.2.4. How to arrange data fields by columns
 - 4.2.5. How to format field in data range
 - 4.2.6. How to show numbers as percentages
 - 4.2.7. How to remove field from data range
 - 4.3. Configuration of grouping areas
 - 4.3.1. [optionally, that is, if time permits] How to show/hide details for selected grouping field

- 4.3.2. [optionally] How to expand selected category from grouping field
- 4.3.3. How to change page/filter (for texts)
- 4.3.4. How to change page/filter (for dates)
- 4.3.5. How to list components (available) of a page field
- 4.3.6. How to list components of a selected pivot table field
- 4.3.7. Workshops
- 5. Date/time processing (date/time functions)
 - 5.1. Basic operations
 - 5.1.1. How to get current date/time
 - 5.1.2. How to get elements of specified date (year, month, day)
 - 5.1.3. How to get elements of specified time (hour, minute, second)
 - 5.2. Calculations on dates/time
 - 5.2.1. How to add/subtract years/months/days from date
 - 5.2.2. How to add/subtract hours/minutes/seconds from date
 - 5.2.3. How to calculate time offset (by months, quarters, weeks, etc.)
 - 5.2.4. How to calculate time difference (in months, quarters, weeks, etc.)
 - 5.2.5. How to check period number for date (quarter, week, etc.)
 - 5.3. Names of weekdays and months
 - 5.3.1. How to get weekday number from date
 - 5.3.2. How to get weekday name
 - 5.3.3. How to convert month number to month name
 - 5.3.4. [option] Timer – timing or program control (for instance, how to stop the program for a specified time)
 - 5.4. Workshops
- 6. Charts
 - 6.1. Creating charts
 - 6.1.1. How to insert chart (as a separate worksheet or in an existing worksheet)
 - 6.1.2. How to get data range and chart type
 - 6.1.3. How to insert chart title
 - 6.1.4. How to show/hide legend (and set its position)
 - 6.1.5. How to show data labels
 - 6.1.6. How to set data label position
 - 6.1.7. How to remove chart
 - 6.1.8. Workshops
 - 6.2. Modifying common chart elements
 - 6.2.1. How to set text parameters for entire chart
 - 6.2.2. How to set chart background color
 - 6.2.3. How to set background color for plot area
 - 6.2.4. How to block automatic chart resizing (when hiding columns/rows of a worksheet)
 - 6.2.5. How to set chart size
 - 6.2.6. How to set chart position (on screen)
 - 6.2.7. How to set text parameters for chart title and data labels
 - 6.2.8. How to set data series color
 - 6.2.9. How to set number format for data labels
 - 6.2.10. How to set text parameters for legend
 - 6.2.11. Workshops
 - 6.3. Modifying charts with axes
 - 6.3.1. How to add another data series to chart

- 6.3.2. How to set titles for axes
 - 6.3.3. How to set text parameters for axis titles and descriptions
 - 6.3.4. How to change number formatting and scale for value axis
 - 6.3.5. How to show/hide gridlines for value axis
 - 6.3.6. How to resize gaps between bars or columns
 - 6.3.7. Workshops
7. End of the training course (test + discussion of the results, training evaluation)

Training method

Lecture + workshops (amount proportional to lecture) + workshop check (individual) + workshop discussion.

Training days and hours

3 days, 24 training hours

After-training development path

- VBA language in MS Excel