

The scope of knowledge of Excel software expected from the students participating in the 47th IChO

Excel is powerful software with nearly unlimited range of possibilities. The Science Committee does not expect students to know all the Excel potentialities, since it is hardly possible even in the case of top IT experts. Please find hereunder the list of skills and operations that would be of help for the students at the Practical exam.

1. Selecting the desired part of an Excel sheet (cell(s), fragments of column(s) and/or row(s), entire column(s) and/or row(s)).
2. Copying and pasting data or desired attributes (values, formats, formulae, etc.) within Excel software (within one sheet, sheet to sheet, file to file) and from different software to an Excel sheet.
3. Inserting and deleting columns and rows, merging cells and splitting merged cells.
4. Changing format of cell(s).
5. Writing a mathematical formula in a cell, spreading the formula to the desired part of the Excel sheet.
6. Plotting the data:
 - a) Selecting the desired data ranges for the X and Y axes (for instance, select a part of Column A as X axis range and, keeping Ctrl button pressed, select analogous part of Column B as Y axis range);
 - b) Plotting graphs (for instance, choose in the Menu bar Insert/Charts/Scatter/Smooth Lined Scatter);
 - c) Adding a trend line and bringing its parameters to the chart area (for instance, hovering the cursor over the graph, right click and choose "Add trend line" in the dropdown list box; choose "Linear" as the "Trend/Regression type"; move down to the "Options" window and tick "Display equation on chart" and "Display R-squared value on chart");
 - d) Understanding of the equation coefficients (line slope and Y-intercept) and R^2 value;
 - e) Choosing the optimal line section by changing the graph data range (maximization of the R^2 value). Any alternative approach to data analysis is also valid.
7. Saving changes in the file. Saving files to the hard disk and on a memory stick. Changing a file name.