Setup manual for

Standard Excel File

by Mariusz Malinka

ICE

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I. What a *Standard Excel File* is?

The *Standard Excel File* (*SEF*) is a specific file format for Microsoft Excel Worksheets utilized by *ICE* for data import and analysis. *SEF* files have designated roles for each column and row, with corresponding data contained within. While cells do not necessarily need to be filled, it is important to note that *ICE* requires an .xlsx file extension for import. To create a proper *SEF*, users may convert files with different extensions by opening them in Excel or a similar program and saving them with the .xlsx extension. For reference, a sample *SEF* and template can be found on the GitHub software repository.

II. Sample file and template

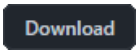
To begin using the *SEF*, you can download a sample file or template from the software's GitHub repository by following these steps:

1. Open your web browser and navigate to https://github.com/MariuszMalinka/ICE.

2. A GitHub repository will appear on your screen. In the central frame, you can access any file of the software.

3. In the central frame, locate the documentation folder which contains sub-folders for each major software version.

4. Click on the documentation folder and select the sub-folder that corresponds to your software version.

5. Choose the files that you require and click on the 

button.

III. Creating a new *Standard Excel File*

The *ICE* can operate on files regardless of the number of columns. The *SEF* format was created to standardize input data files. It is composed of one header row, two columns containing date and time, one column made of optimal values for the given input values and five columns made with input values.

To create a *SEF,* follow these steps:

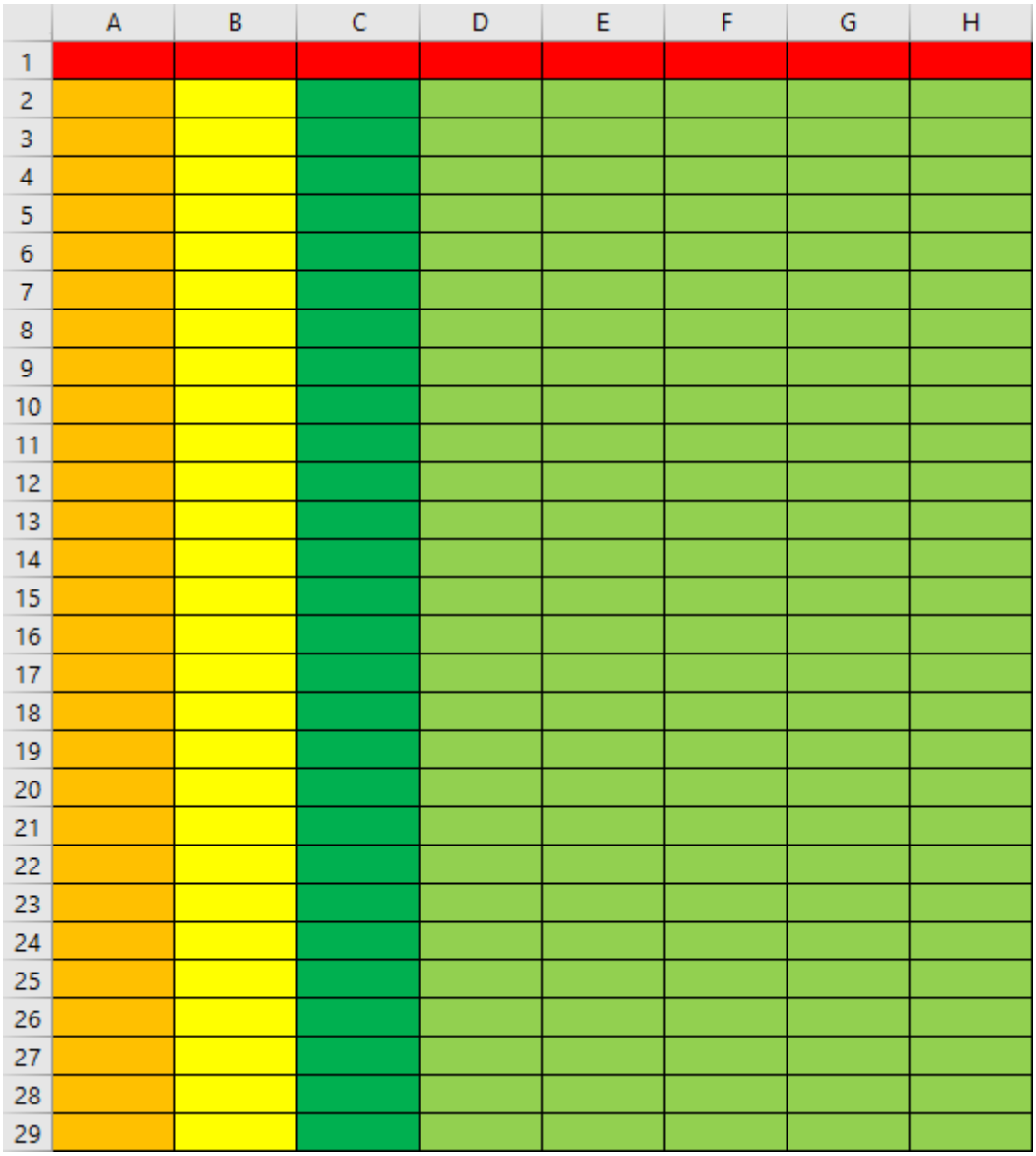
1. Open a new Excel sheet.
2. In the first row, enter the header names.
3. In the first two columns, enter the day and time.
4. In the third column, enter the optimal value.
5. In the fourth to eighth columns, enter the input values.
6. Repeat steps 3 - 5 until you have inserted all your data.
7. Save your file with the **.xlsx** file extension.

NOTE

In case you want to enter less than five input values, leave the redundant cells with zeroes.

To illustrate the appearance of the *SEF* format, the columns and rows are highlighted in the document with colors as follows:

Red	Orange	Yellow	Green	Light green
Header	Date	Time	Optimal value	Input value



SEF template with colors

IV. Rows and their intended use

In the *SEF* format we can distinguish two main types of rows. The first one is header and the second one is row with values.

Header	The first row of Excel is reserved for column names. Column names are used by the software to prompt the user to enter input values. While it is not mandatory to provide column names, doing so can help to provide a clear and comprehensive description of the data. If a header cell is left empty, the *ICE* software will automatically assign it the name "Untitled".
Row with values	After the header row, each subsequent row in the worksheet contains values that are used by the *ICE* software to construct the mathematical model. The data in each cell of these rows is associated with the column in which it is located. The *ICE* software does not impose any specific limit on the number of rows that can be used to build the model. It will continue to use each row in the file until the end of the data is reached.

V. Columns and their intended use

The *SEF* format has four types of columns, but only two of them are used to create the mathematical model. Here is an overview of each column type:

Date	This column should contain days of the week. The "Day based" estimation option is performed based on the contents of this column. To take full advantage of this feature, the contents of this column should be created with patterns that will occur repeatedly. For more information about the estimation options, refer to the *Help* documentation.
Time	This column should contain hours formatted according to the Excel hour format. The "Time based" estimation option is performed based on the contents of this column. To take full advantage of this feature, the contents of this column should be created with patterns that will occur repeatedly. For more information about the estimation options, refer to the *Help* documentation.
Optimal value	This column is reserved for values that are assumed to be the ideal output values for the given input values. Accurately assuming the optimal value is crucial to obtaining the most accurate final values from *ICE*. The values in this column are essential to the proper operation of the software.
Input values	The *SEF* format has five columns reserved for input values. While it's not necessary to fill in all these columns, empty columns must be filled with zeros for the software to work correctly. The software calls the names of the columns containing input values to request that the user enter those values.

VI. File implementation

After configuring your file, you can compare it with the provided sample file displayed below. If they have a similar format, you can proceed to run the *ICE* software and apply your file. For further guidance, please refer to the *Help* documentation.

	A	B	C	D	E	F	G	H
1	Date	Time	Optimal	Input 1	Input 2	Input 3	Input 4	Input 5
2	Mon	09:00	0	1	2	3	4	5
3	Mon	15:00	0	1	2	3	4	5
4	Mon	18:00	0	1	2	3	4	5
5	Mon	21:00	0	1	2	3	4	5
6	Tue	09:00	0	1	2	3	4	5
7	Tue	15:00	0	1	2	3	4	5
8	Tue	18:00	0	1	2	3	4	5
9	Tue	21:00	0	1	2	3	4	5
10	Wed	09:00	0	1	2	3	4	5
11	Wed	15:00	0	1	2	3	4	5
12	Wed	18:00	0	1	2	3	4	5
13	Wed	21:00	0	1	2	3	4	5
14	Thu	09:00	0	1	2	3	4	5
15	Thu	15:00	0	1	2	3	4	5
16	Thu	18:00	0	1	2	3	4	5
17	Thu	21:00	0	1	2	3	4	5
18	Fri	09:00	0	1	2	3	4	5
19	Fri	15:00	0	1	2	3	4	5
20	Fri	18:00	0	1	2	3	4	5
21	Fri	21:00	0	1	2	3	4	5
22	Sat	09:00	0	1	2	3	4	5
23	Sat	15:00	0	1	2	3	4	5
24	Sat	18:00	0	1	2	3	4	5
25	Sat	21:00	0	1	2	3	4	5
26	Sun	09:00	0	1	2	3	4	5
27	Sun	15:00	0	1	2	3	4	5
28	Sun	18:00	0	1	2	3	4	5
29	Sun	21:00	0	1	2	3	4	5

Example file configuration.