



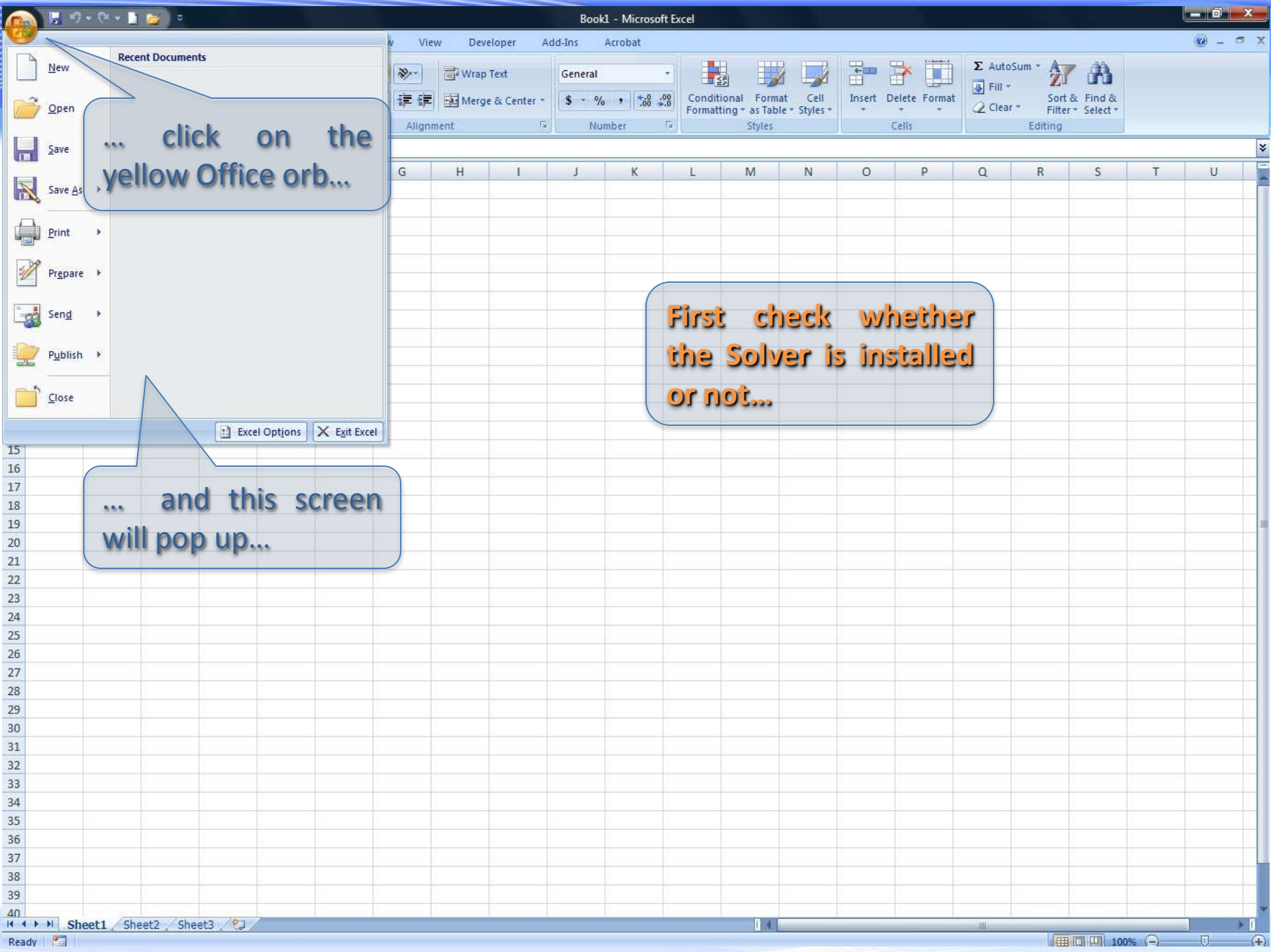
## Installing the solver add-in

Unlocking optimization power...



## The Solver

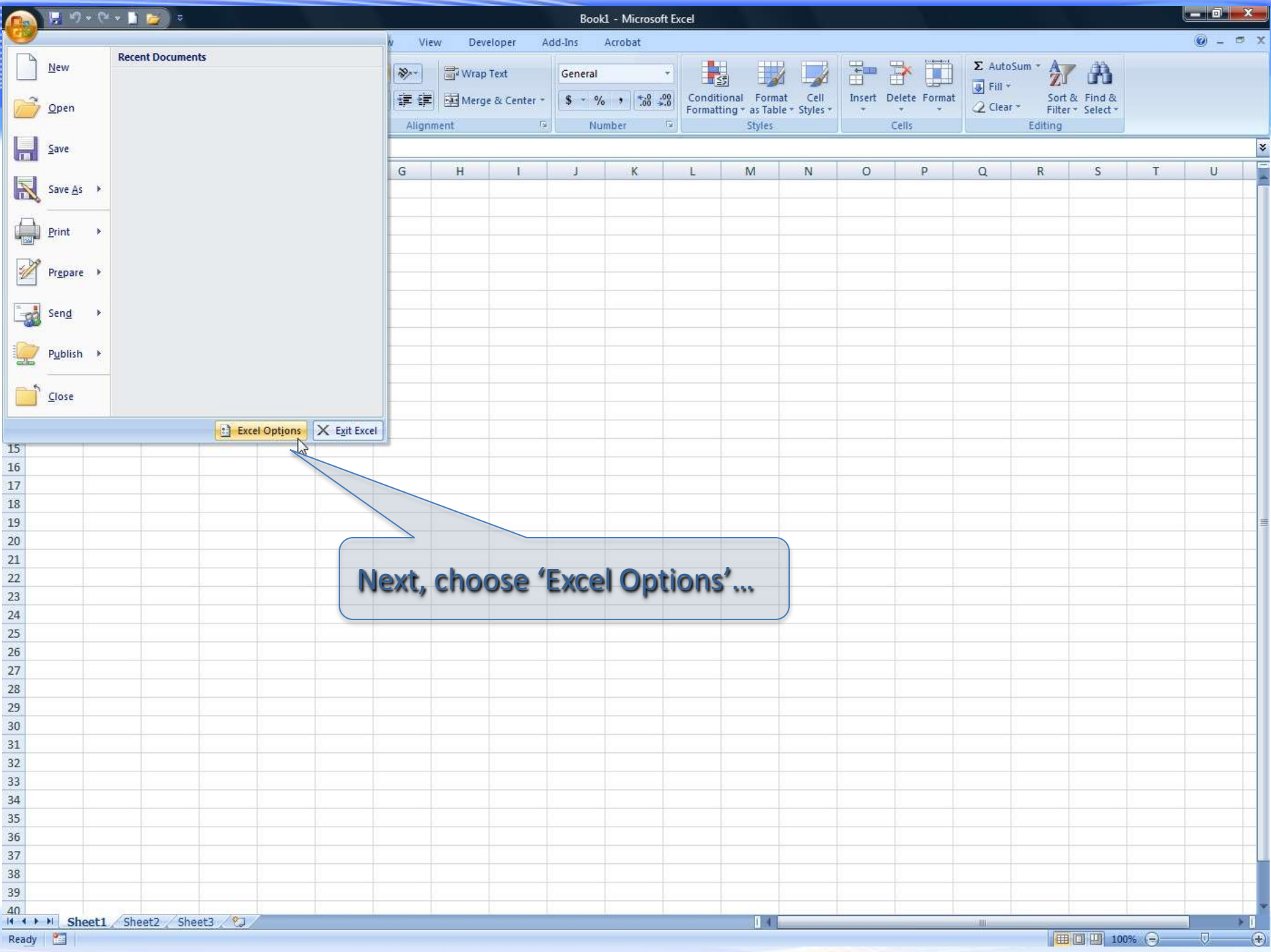
- The Solver is a mathematical add-in that comes with your Excel 2007
- MIX 2.0 uses it to solve mathematical optimization problems
- Although it is included with your copy of Excel you have to install it manually
- Let's see how you can do that...



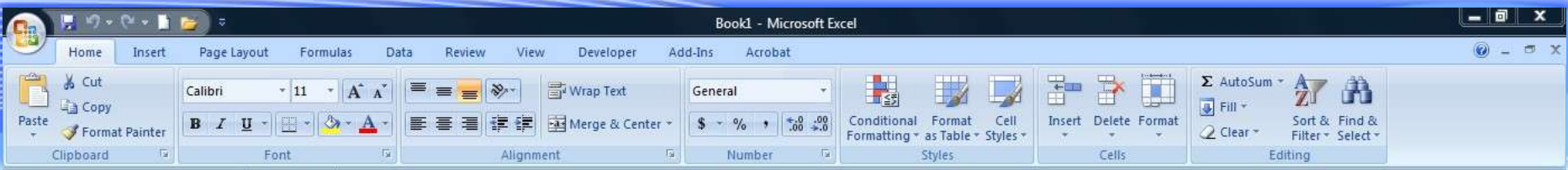
... click on the yellow Office orb...

First check whether the Solver is installed or not...

... and this screen will pop up...



Next, choose 'Excel Options'...



**Excel Options**

Change the most popular options in Excel.

**Popular**

**Top options for working with Excel**

- Show Mini Toolbar on selection
- Enable Live Preview
- Show Developer tab in the Ribbon

Color scheme: Blue

ScreenTip style: Show feature descriptions in ScreenTips

Create lists for use in sorts and fill sequences: [Edit Custom Lists...](#)

**When creating new workbooks**

Use this font: Body Font

Font size: 11

Default view for new sheets: Normal View

Include this many sheets: 3

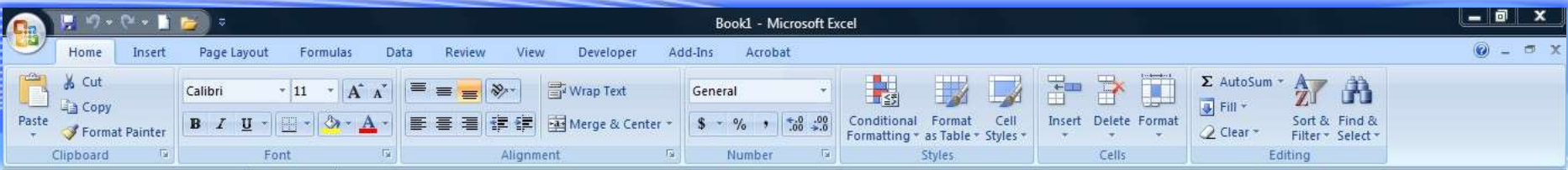
**Personalize your copy of Microsoft Office**

User name: Leon Bax

Choose the languages you want to use with Microsoft Office: [Language Settings...](#)

OK Cancel

A screen like this will appear...



Excel Options

Popular  
Formulas  
Proofing  
Save  
Advanced  
Customize  
**Add-ins**  
Trust Center  
Resources

View and manage Microsoft Office add-ins.

**Add-ins**

| Name                                    | Location                                       | Type               |
|---|--|--------------------|
| <b>Active Application Add-ins</b>       |  |                    |
| Send to Bluetooth                       | C:\Windows\System32\btsendto_office.dll        | COM Add-in         |
| <b>Inactive Application Add-ins</b>     |  |                    |
| Analysis ToolPak                        | analys32.xll                                   | Excel Add-in       |
| Analysis ToolPak - VBA                  | atpvaen.xlam                                   | Excel Add-in       |
| Conditional Sum Wizard                  | sumif.xlam                                     | Excel Add-in       |
| Custom XML Data                         | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Date (Smart tag lists)                  | C:\...iles\microsoft shared\Smart Tag\MOFL.DLL | Smart Tag          |
| Euro Currency Tools                     | eurotool.xlam                                  | Excel Add-in       |
| Financial Symbol (Smart tag lists)      | C:\...iles\microsoft shared\Smart Tag\MOFL.DLL | Smart Tag          |
| Headers and Footers                     | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Hidden Rows and Columns                 | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Hidden Worksheets                       | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Internet Assistant VBA                  | C:\...rosoft Office\Office12\Library\HTML.XLAM | Excel Add-in       |
| Invisible Content                       | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Lookup Wizard                           | lookup.xlam                                    | Excel Add-in       |
| Microsoft Action Pane                   |  | XML Expansion Pack |
| Person Name (Outlook e-mail recipients) | C:\...es\microsoft shared\Smart Tag\FNAME.DLL  | Smart Tag          |
| Solver Add-in                           | solver.xlam                                    | Excel Add-in       |
| <b>Document Related Add-ins</b>         |  |                    |
| No Document Related Add-ins             |  |                    |

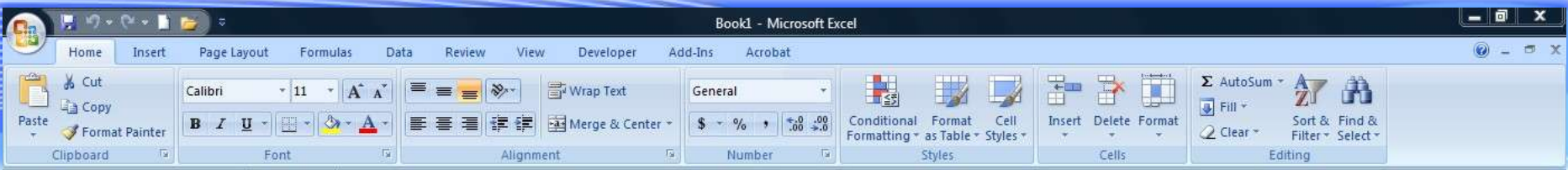
Add-in: Send to Bluetooth  
Publisher: <None>  
Location: C:\Windows\System32\btsendto\_office.dll  
Description:

Manage: Excel Add-ins Go...

OK Cancel

Choose 'Add-ins' ...

... and if you haven't installed the Solver yet you'll find it under the 'Inactive Application Add-ins'...



Excel Options

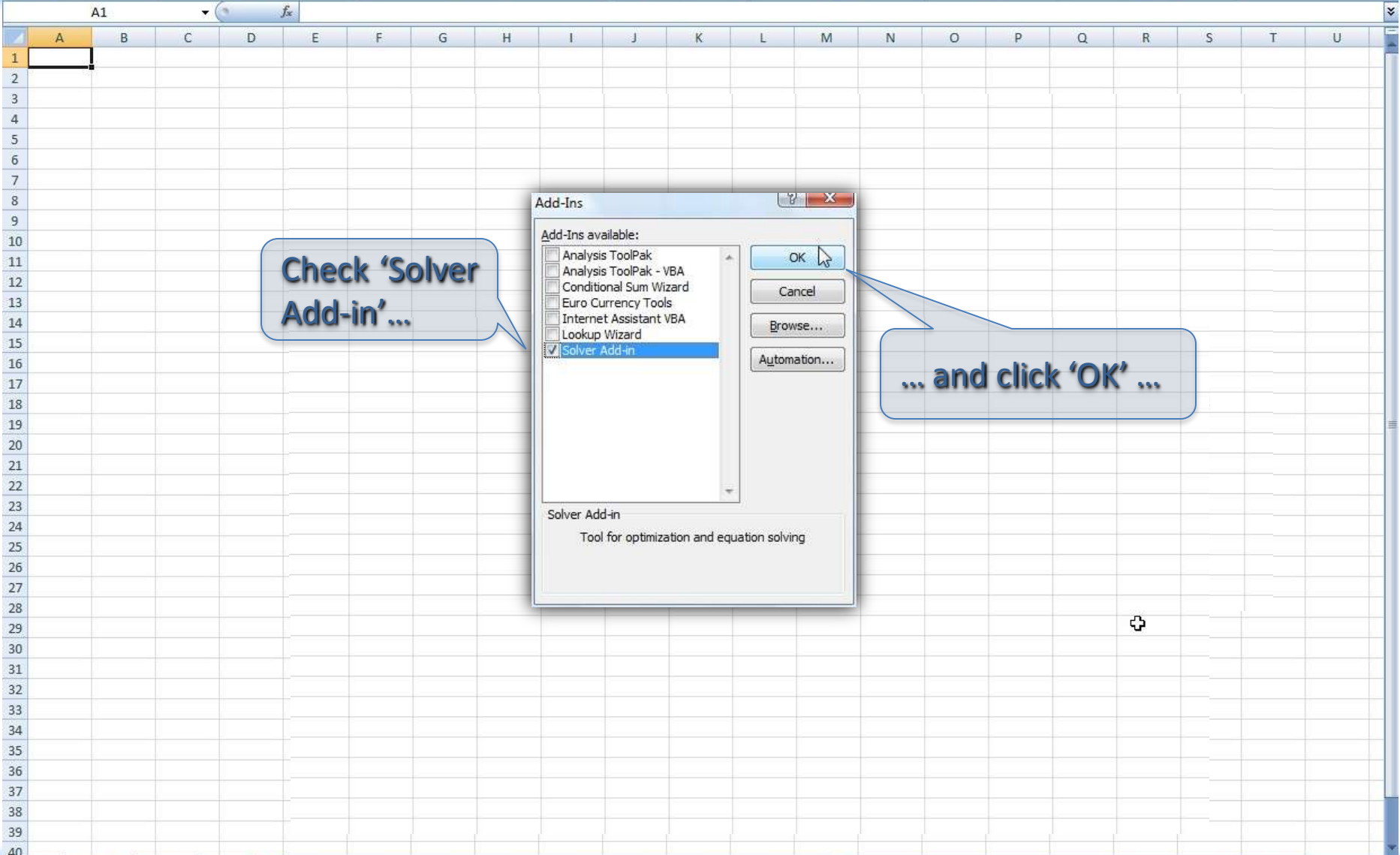
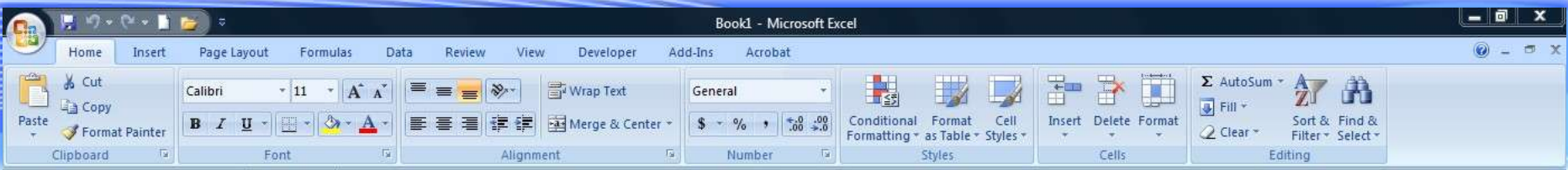
Popular  
Formulas  
Proofing  
Save  
Advanced  
Customize  
**Add-Ins**  
Trust Center  
Resources

View and manage Microsoft Office add-ins.

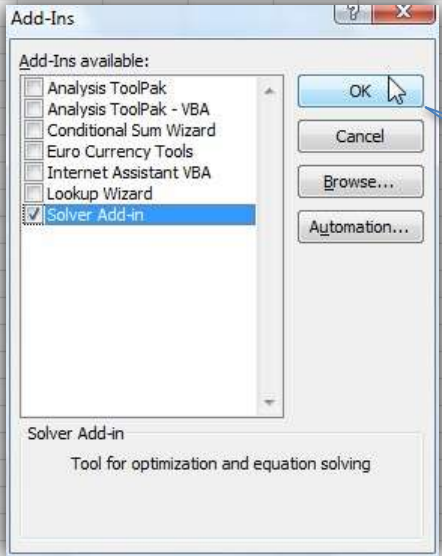
**Add-ins**

| Name                                    | Location                                       | Type               |
|---|--|--------------------|
| <b>Active Application Add-ins</b>       |  |                    |
| Send to Bluetooth                       | C:\Windows\System32\btsendto_office.dll        | COM Add-in         |
| <b>Inactive Application Add-ins</b>     |  |                    |
| Analysis ToolPak                        | analys32.xll                                   | Excel Add-in       |
| Analysis ToolPak - VBA                  | atpvbaen.xlam                                  | Excel Add-in       |
| Conditional Sum Wizard                  | sumif.xlam                                     | Excel Add-in       |
| Custom XML Data                         | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Date (Smart tag lists)                  | C:\...iles\microsoft shared\Smart Tag\MOFL.DLL | Smart Tag          |
| Euro Currency Tools                     | eurotool.xlam                                  | Excel Add-in       |
| Financial Symbol (Smart tag lists)      | C:\...iles\microsoft shared\Smart Tag\MOFL.DLL | Smart Tag          |
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| Hidden Rows and Columns                 | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Hidden Worksheets                       | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Internet Assistant VBA                  | C:\...rosoft Office\Office12\Library\HTML.XLAM | Excel Add-in       |
| Invisible Content                       | C:\...es\Microsoft Office\Office12\OFFRHD.DLL  | Document Inspector |
| Lookup Wizard                           | lookup.xlam                                    | Excel Add-in       |
| Microsoft Actions Pane                  |  | XML Expansion Pack |
| Person Name (Outlook e-mail recipients) | C:\...es\microsoft shared\Smart Tag\FNAME.DLL  | Smart Tag          |
| Solver Add-in                           | solver.xlam                                    | Excel Add-in       |
| <b>Document Related Add-ins</b>         |  |                    |
| No Document Related Add-ins             |  |                    |
| Add-in:                                 | Send to Bluetooth                              |                    |
| Publisher:                              | <None>   |                    |
| Location:                               | C:\Windows\System32\btsendto_office.dll        |                    |
| Description:                            |  |                    |
| Manage:                                 | Excel Add-ins                                  | Go...              |
| OK Cancel                               |  |                    |

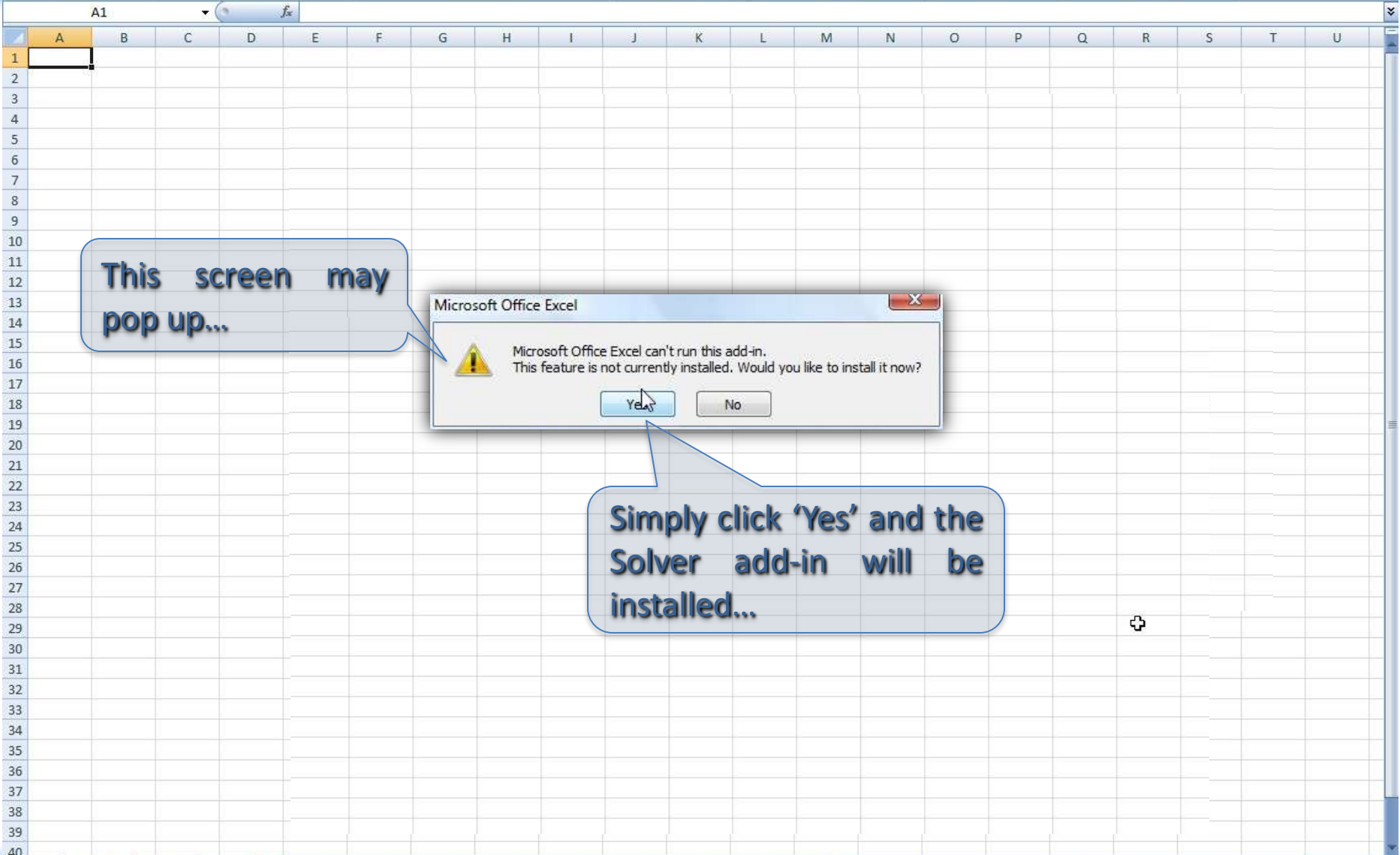
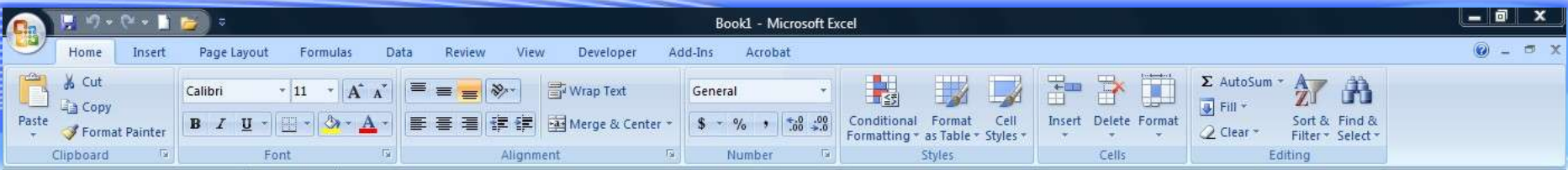
... click the 'Go...' button while 'Excel Add-ins' is shown in the dropdown box...



Check 'Solver Add-in'...



... and click 'OK' ...



This screen may pop up...



Simply click 'Yes' and the Solver add-in will be installed...

Book1 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Add-Ins Acrobat

Cut Copy Paste Format Painter Clipboard

Calibri 11 Font

Wrap Text Alignment

General Number

Conditional Formatting Styles

Format as Table Cell Styles

Insert Delete Format Cells

AutoSum Fill Clear Editing


Sort & Filter Find & Select

A1

|    | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U |
|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 2  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 6  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 9  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 10 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 11 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 13 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 14 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 15 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 17 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 18 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 19 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 20 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 21 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 22 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 23 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 24 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 25 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 26 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 27 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 28 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 29 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 30 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 31 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 32 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 33 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 34 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 35 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 36 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 37 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 38 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 39 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Microsoft Office Ultimate 2007

### Configuration Progress



Configuring Microsoft Office Ultimate 2007...

Wait until the configuration is completed...

Book1 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Add-Ins Acrobat

Cut Copy Paste Format Painter Clipboard

Calibri 11 Font

Wrap Text Alignment

General Number

Conditional Formatting Styles

Format as Table Cell Styles

Insert Delete Format Cells

AutoSum Fill Clear Sort & Filter Find & Select Editing

A1

A B C D E F G H I J K L M N O P Q R S T U

|    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 32 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 33 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 34 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 36 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 37 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 38 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 39 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

If you check again, you'll see the Solver add-in is now listed under 'Active Application Add-ins'...

Excel Options

Popular Formulas Proofing Save Advanced Customize Add-Ins Trust Center Resources

View and manage Microsoft Office add-ins

Add-ins

| Name                                    | Location  | Type               |
|---|---|--------------------|
| Active Application Add-ins              |   |                    |
| Send to Bluetooth                       | C:\Windows\System32\btssendto_office.dll                              | COM Add-in         |
| Solver Add-in                           | C:\Program Files\Microsoft Office\Office12\Library\SOLVER\solver.xlam | Excel Add-in       |
| Inactive Application Add-ins            |   |                    |
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| Analysis ToolPak - VBA                  | atpvaen.xlam  | Excel Add-in       |
| Conditional Sum Wizard                  | sumif.xlam  | Excel Add-in       |
| Custom XML Data                         | C:\es\Microsoft Office\Office12\OFFRHD.DLL                            | Document Inspector |
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| Financial Symbol (Smart tag lists)      | C:\es\microsoft shared\Smart Tag\MOFL.DLL                             | Smart Tag          |
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| Hidden Rows and Columns                 | C:\es\Microsoft Office\Office12\OFFRHD.DLL                            | Document Inspector |
| Hidden Worksheets                       | C:\es\Microsoft Office\Office12\OFFRHD.DLL                            | Document Inspector |
| Internet Assistant VBA                  | C:\es\Microsoft Office\Office12\Library\HTMLX.LAM                     | Excel Add-in       |
| Invisible Content                       | C:\es\Microsoft Office\Office12\OFFRHD.DLL                            | Document Inspector |
| Lookup Wizard                           | lookup.xlam   | Excel Add-in       |
| Microsoft Actions Pane                  |   |                    |
| Person Name (Outlook e-mail recipients) | C:\es\microsoft shared\Smart Tag\FNAME.DLL                            | Smart Tag          |
| Document Related Add-ins                |   |                    |
| No Document Related Add-ins             |   |                    |
| Add-in:                                 | Solver Add-in   |                    |
| Publisher:                              |   |                    |
| Location:                               | C:\Program Files\Microsoft Office\Office12\Library\SOLVER\solver.xlam |                    |
| Description:                            | Tool for optimization and equation solving                            |                    |
| Manage:                                 | Excel Add-ins   | Go...              |
| OK                                      | Cancel  |                    |



## The Solver

- You now have installed the Solver add-in
- This means MIX is ready to do some of the more complex analyses in which it applies iterative optimizations
  - Some random effects analyses
  - Multivariable regression analyses



**That's all there is to it...**

Good luck with your meta-analysis!