

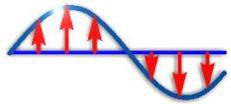


Getting started in Pictures

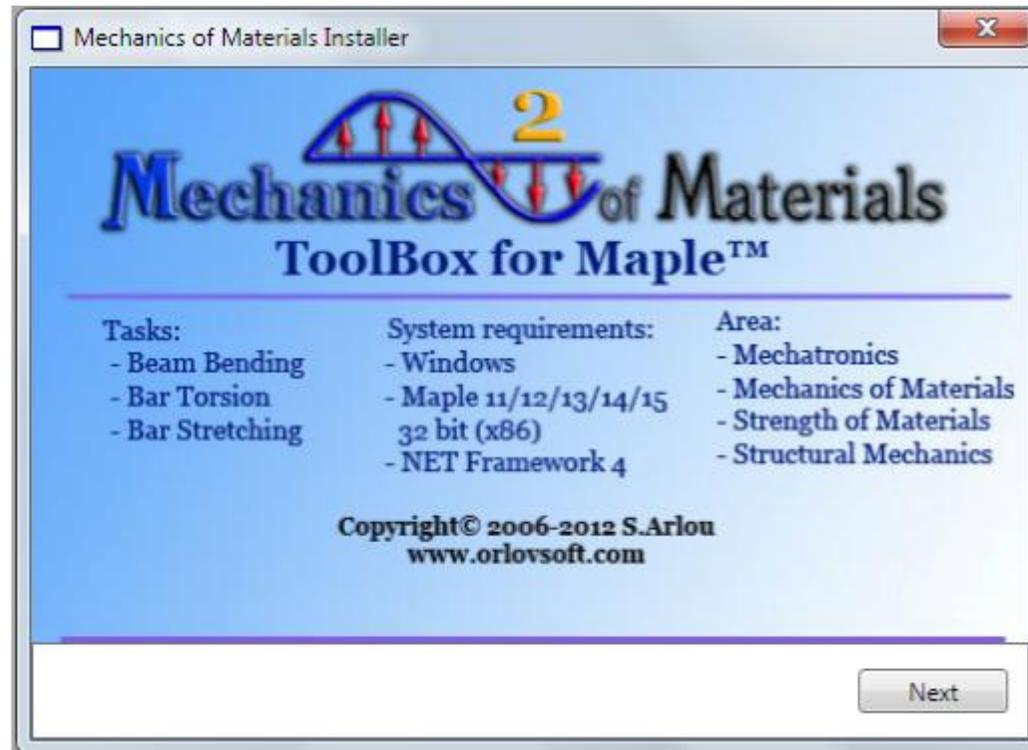
Siarhei Arlou


Mechanics ² of Materials
ToolBox for Maple™
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Simply The New Generation CAE software
ORLOVSOFT



Mechanics of Materials™ Toolbox for Maple™

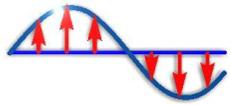


System Requirements:

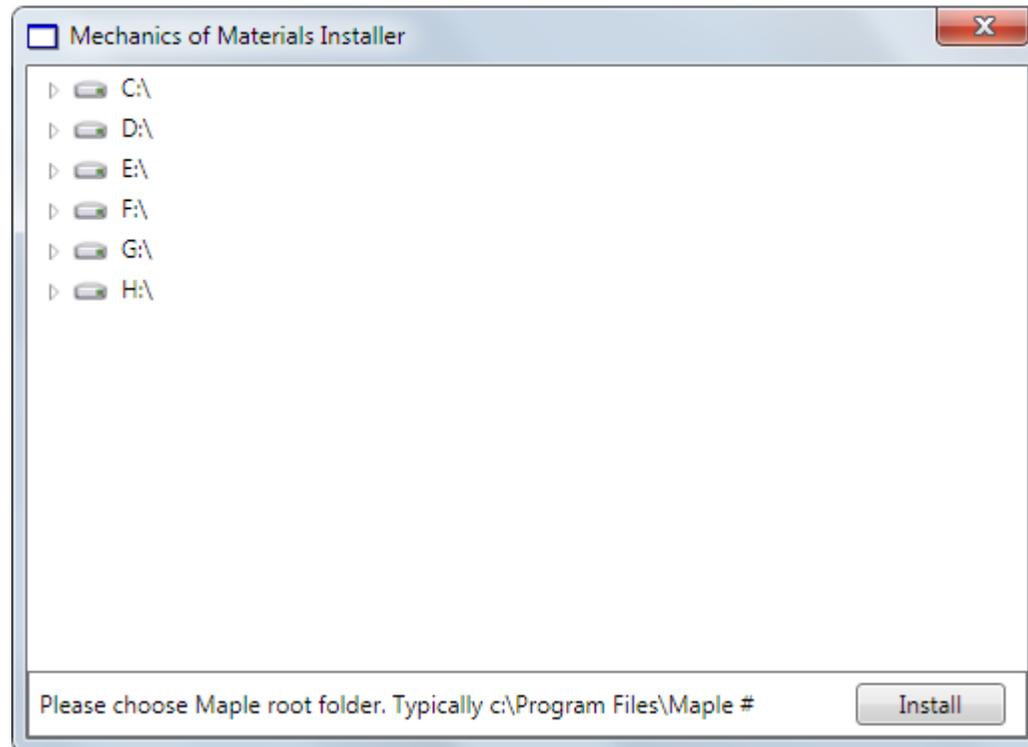
- Windows;
- Microsoft NET 4;
<http://www.microsoft.com/download/en/details.aspx?id=17113>
- Maple 11/12/13/14/15 (Maple 32 bit version only);

Installation Steps

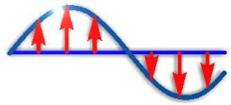
1. Please start downloaded **.exe** file.
2. You will see start installation window like this.



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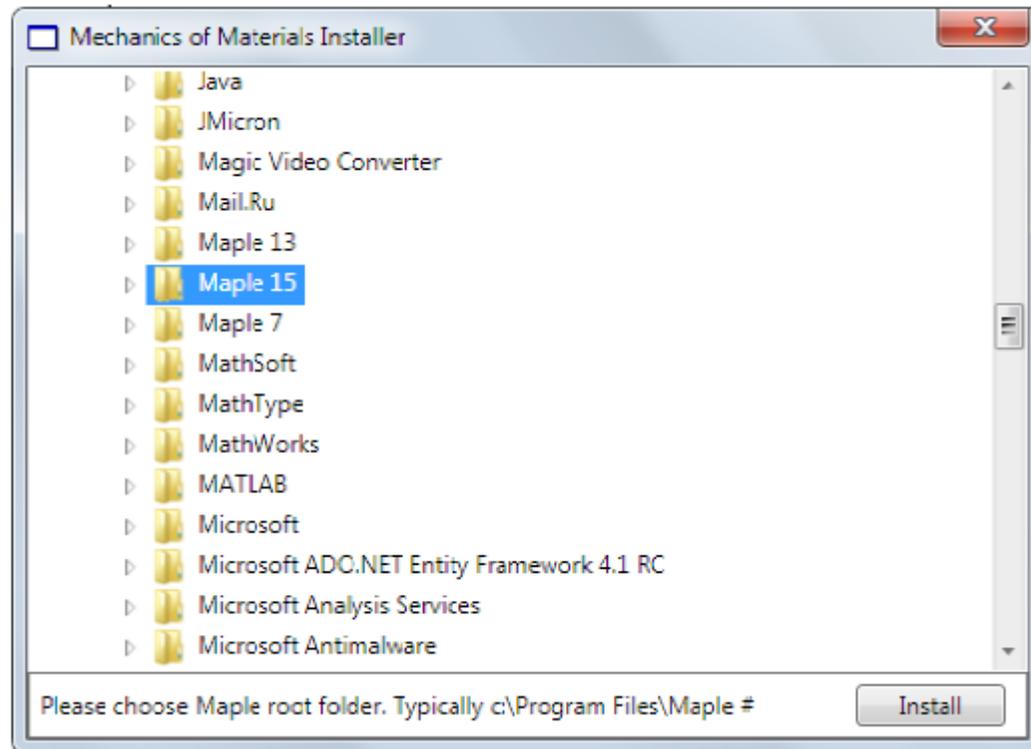


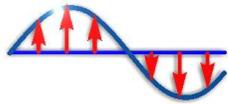
3. Follow usual installation steps.
4. Choose **root** Maple installation folder and click **Install**.



Mechanics of Materials™ Toolbox for Maple™

5. At final stage of installation process you will see **activation** window.





Mechanics of Materials™ Toolbox for Maple™

Mechanics of Materials Installer

**Activation of Mechanics of Materials
Toolbox for Maple**

There are only few simple steps are needed for activation your personal version. Please submit to us on mmtoolbox@orlovsoft.com

1. **PC Hardware ID** (presented below)
2. **Serial Number** (purchased)

We will e-mail to you with individual **activation code**. After getting it start installation again and paste it in empty space for activation code.
Thank for using our software and welcome to our forum for Mechanics of Materials tasks discussion in forum.orlovsoft.com.
Support: support@orlovsoft.com
For Inquiring Trial full-featured activation code feel free to write us.

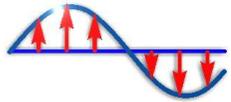
Hardware ID	1G9DQ/kY7Xjuozna
Activation Code	Put here your activation code

Activate

6. Paste individual activation code and click **Activate**.
7. Installation process is finished.

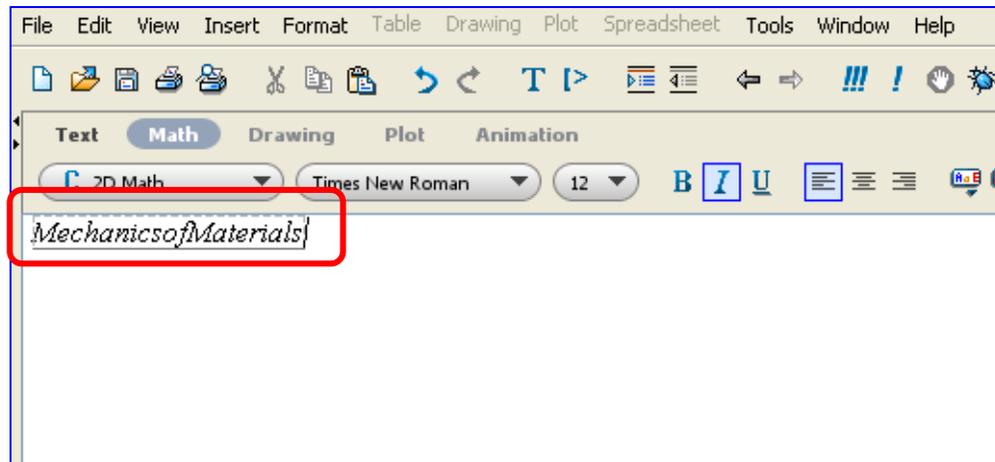
If you have not purchased activation code and you wish to try the software please feel free to ask us **trial activation code** via

mmtoolbox@orlovsoft.com.



Mechanics of Materials™ Toolbox for Maple™

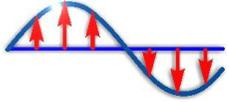
Easy Start



Toolbox Help developed for Maple standard interface only. The beginning with Mechanics of Materials is comfortable by using the examples library located in toolbox **Help**. Also for fast and easy start you may use predefined **Templates**.

Type the **MechanicsofMaterials** string by single word.

Please click **F2** button when you are in **MechanicsofMaterials** string. Cursor must be within the text, not in start or last letter positions.



Mechanics of Materials™ Toolbox for Maple™

Results of calling of help topic **MechanicsofMaterials** are presented at left part. There is main toolbox help page.

Maple 13 Help - [MechanicsofMaterials]
File Edit View History Help

Search For: Topic Text
MechanicsofMaterials Search

Resources: All

Table of Contents Search Results

- MechanicsofMaterials
- MechanicsofMaterials, Bar Torsion
- MechanicsofMaterials, Bar Torsion
- MechanicsofMaterials, Beam Bending
- MechanicsofMaterials, Options
- MechanicsofMaterials, sample01
- MechanicsofMaterials, sample02
- MechanicsofMaterials, sample03
- MechanicsofMaterials, sample04
- MechanicsofMaterials, sample05
- MechanicsofMaterials, sample06
- MechanicsofMaterials, sample07
- MechanicsofMaterials, sample08
- MechanicsofMaterials, sample09
- MechanicsofMaterials, sample10
- MechanicsofMaterials, sample10
- MechanicsofMaterials, Templates, Full Bending
- MechanicsofMaterials, Templates, Full Bending Boundary
- MechanicsofMaterials, Templates, Full Bending Shearing
- MechanicsofMaterials, Templates, Full Bending Winkler
- MechanicsofMaterials, Templates, Full Stretching
- MechanicsofMaterials, Templates, Full Stretching Boundary
- MechanicsofMaterials, Templates, Full Torsion
- MechanicsofMaterials, Templates, Full Torsion Boundary

Mechanics of Materials 2
ToolBox for Maple™

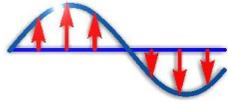
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www.orlovsoft.com
www.maplesoft.com

Developed for Maple Standard Interface Help system

Main Toolbox Help Page
www.orlovsoft.com

Short Toolbox Links

- [Beam Bending Package Examples](#)
- [Bar Torsion Package Examples](#)
- [Bar Torsion Package Examples](#)
- [Toolbox Options](#)
- [Full Bending Template](#)
- [Full Bending Boundary Template](#)
- [Full Bending Shearing Template](#)
- [Full Bending Winkler Template](#)
- [Full Stretching Template](#)
- [Full Stretching Boundary Template](#)
- [Full Torsion Template](#)
- [Full Torsion Boundary Template](#)
- [MM Free Library Sample 01](#)
- [MM Free Library Sample 02](#)
- [MM Free Library Sample 03](#)
- [MM Free Library](#)



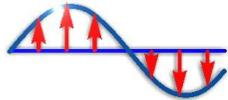
Mechanics of Materials™ Toolbox for Maple™

Fast Toolbox start is using **MM Free Library™** samples.

It is possible to view it by one click in Maple help browser.

Please be patient. Opening the help page in Maple sometimes take a more than one-two seconds.

The screenshot shows the Maple help browser interface. On the left is a search sidebar with a 'Search For:' field set to 'Topic' and 'Mechanics of Materials' entered. Below it is a 'Resources:' dropdown set to 'All'. A 'Table of Contents' pane lists various topics, with 'Mechanics of Materials, sample04' selected. The main content area displays the title 'Mechanics of Materials 2 MM Free Library™' with a date of 'January 2012' and two website URLs: www.orlovsoft.com and www.maplesoft.com. Below this is a paragraph of text: 'MM Free Library™ is a free support collection of applications from Sjarhei Arlou Mechanics of Materials™ created by Sjarhei Arlou, Orlovsoft Sjarhei Arlou is independent from Waterloo Maple Inc. Copyright © 2006-2012 S.Arlou Maple is trademark of Waterloo Maple Inc. Maplesoft is a division of Waterloo Maple Inc.' The title 'Sample 04' is displayed in a large, stylized purple font. Underneath, a text block states: 'It requires build simulation model of static loading for bending moments and deflections. Rule of static loading: $(t + 1) \cdot 3 \cdot 10^3 \cdot \sin(4 \cdot z)$.' At the bottom is a diagram of a beam with various loads: a 5 kN/m distributed load over 2m, a 2 kNm moment, an 8 kN point load, a 3 sin(4z) kN/m distributed load over 6m, a 4 kN/m distributed load over 4m, and a 4m segment to the right. Material properties are given as $E = 2 \cdot 10^{11} Pa$ and $J_x = 200 \cdot 10^{-8} m^4$.



Mechanics of Materials™ Toolbox for Maple™

There is simple way to make a Maple **worksheet** from **help article**. Please follow to view item in main menu and find here point **Open Page As Worksheet**.

The screenshot shows the Maple software interface. The 'View' menu is open, and the 'Open Page As Worksheet' option is highlighted with a red rectangle. The main window displays the 'Mechanics of Materials MM Free Library™' page for January 2012, featuring 'Sample 04'.

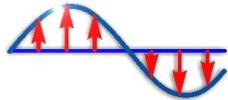
Mechanics of Materials
MM Free Library™
 January 2012
www.orlovsoft.com
www.maplesoft.com

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 Mechanics of Materials™ created by Sierhei Arlou, Delovsoft
 Sierhei Arlou is independent from Waterloo Maple Inc.
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 Maple is trademark of Waterloo Maple Inc.
 Maplesoft is a division of Waterloo Maple Inc.

Sample 04

It requires build simulation model of static loading for bending moments and deflections.
 Rule of static loading: $(z + 1) \cdot 3 \cdot 10^3 \sin(4 \cdot z)$.

Diagram of a beam with various static loads: a 5kN/m distributed load, a 2kNm moment, an 8kN point load, a $3\sin(4z)$ kN/m distributed load, and a 4kN/m distributed load. The beam is supported by a pin support and a roller support. Material properties are given as $E = 2 \cdot 10^{11} \text{ Pa}$ and $J_z = 200 \cdot 10^{-8} \text{ m}^4$.



Mechanics of Materials™ Toolbox for Maple™

The result is following.
Now we can browse,
calculate and change
Maple Worksheet Document.

File Edit View Insert Format Table Drawing Plot Spreadsheet Tools Window Help

Text Math Drawing Plot Animation

Times New Roman

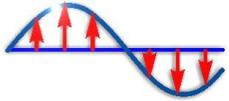
Mechanics of Materials
MM Free Library™
January 2012
www.orlovsoft.com
www.maplesoft.com

MM Free Library™ is a free support collection of applications from Siarhei Arlou
Mechanics of Materials™ created by Siarhei Arlou, Orlovsoft
Siarhei Arlou is independent from Waterloo Maple Inc.
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Maple is trademark of Waterloo Maple Inc.
Maplesoft is a division of Waterloo Maple Inc.

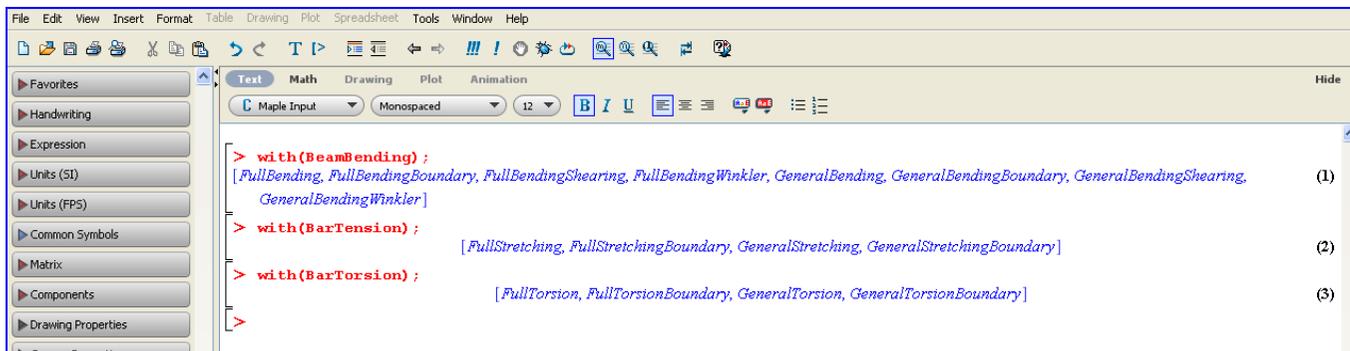
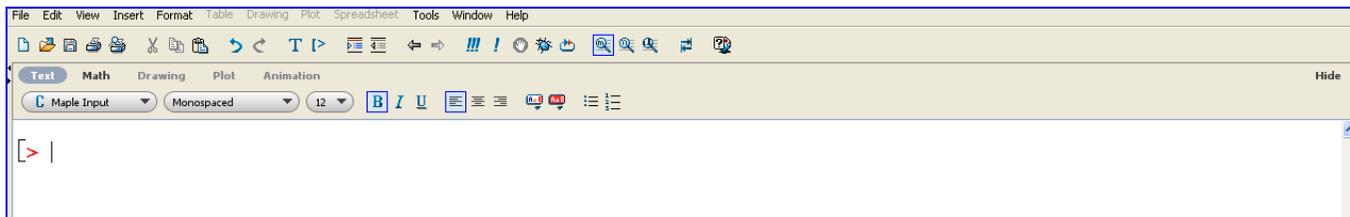
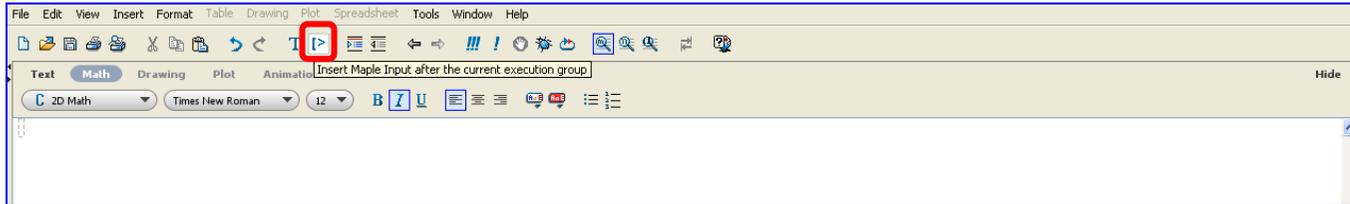
Sample 04

It requires build simulation model of static loading for bending moments and deflections.
Rule of static loading: $(x + 1) \cdot 3 \cdot 10^3 \cdot \sin(4 \cdot x)$.

5kN/m 2kNm 3sin(4x), kN/m 4kN/m $E = 2 \cdot 10^{11} Pa$



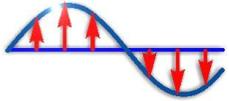
Mechanics of Materials™ Toolbox for Maple™



Maple programming environment gives most powerful opportunities for modeling your own tasks. For using this mode start **Maple session**. Then apply **Ctrl+M** combination – **Maple Worksheet Mode** (not Document Mode).

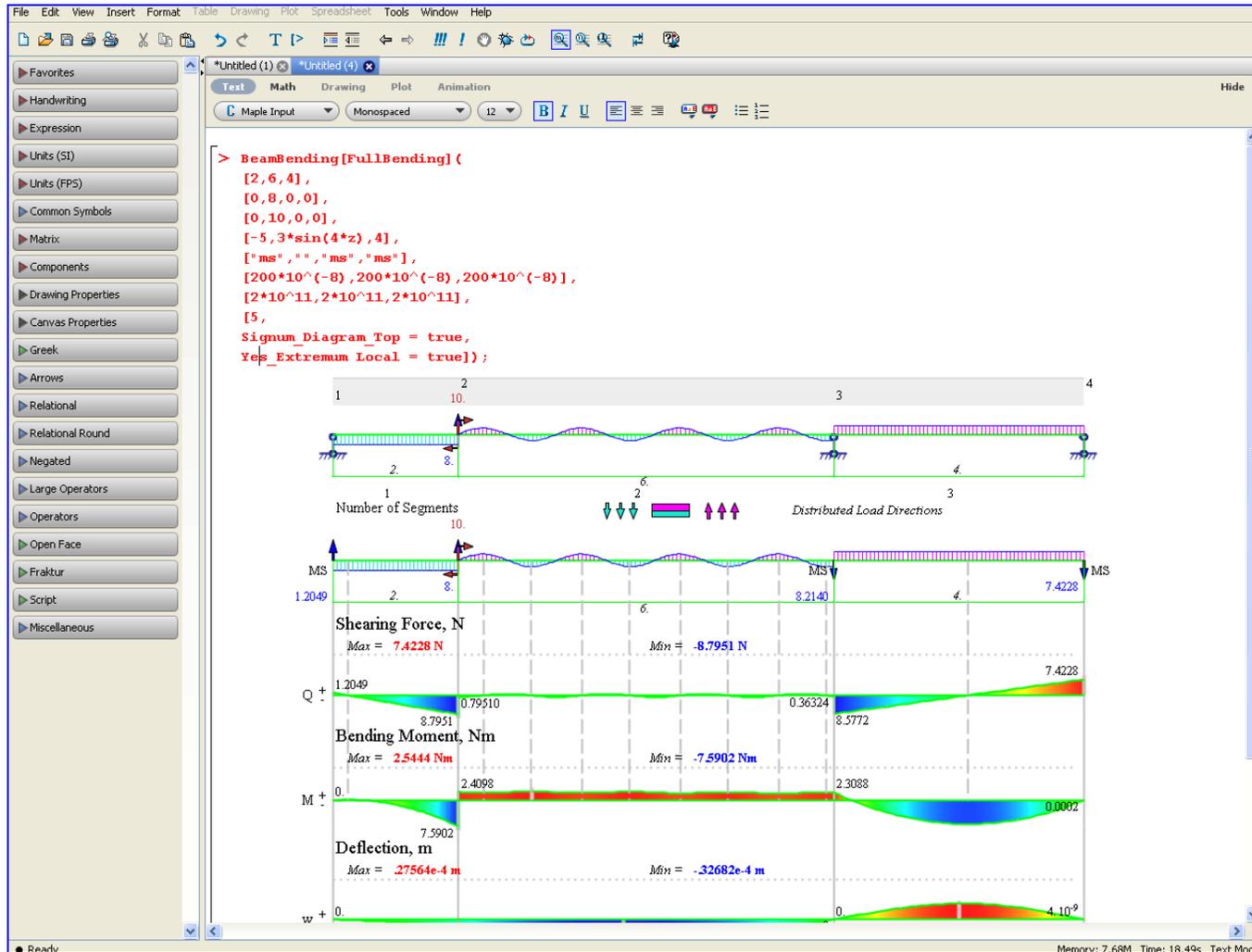
All sixteen functions are available by using next references to toolbox three packages.

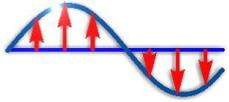
You may use also short form to access to some function by scheme **PackageName [FunctionofPackage] (InputData)**;. For detailed information about package functions please see Maple help by topic **with**.



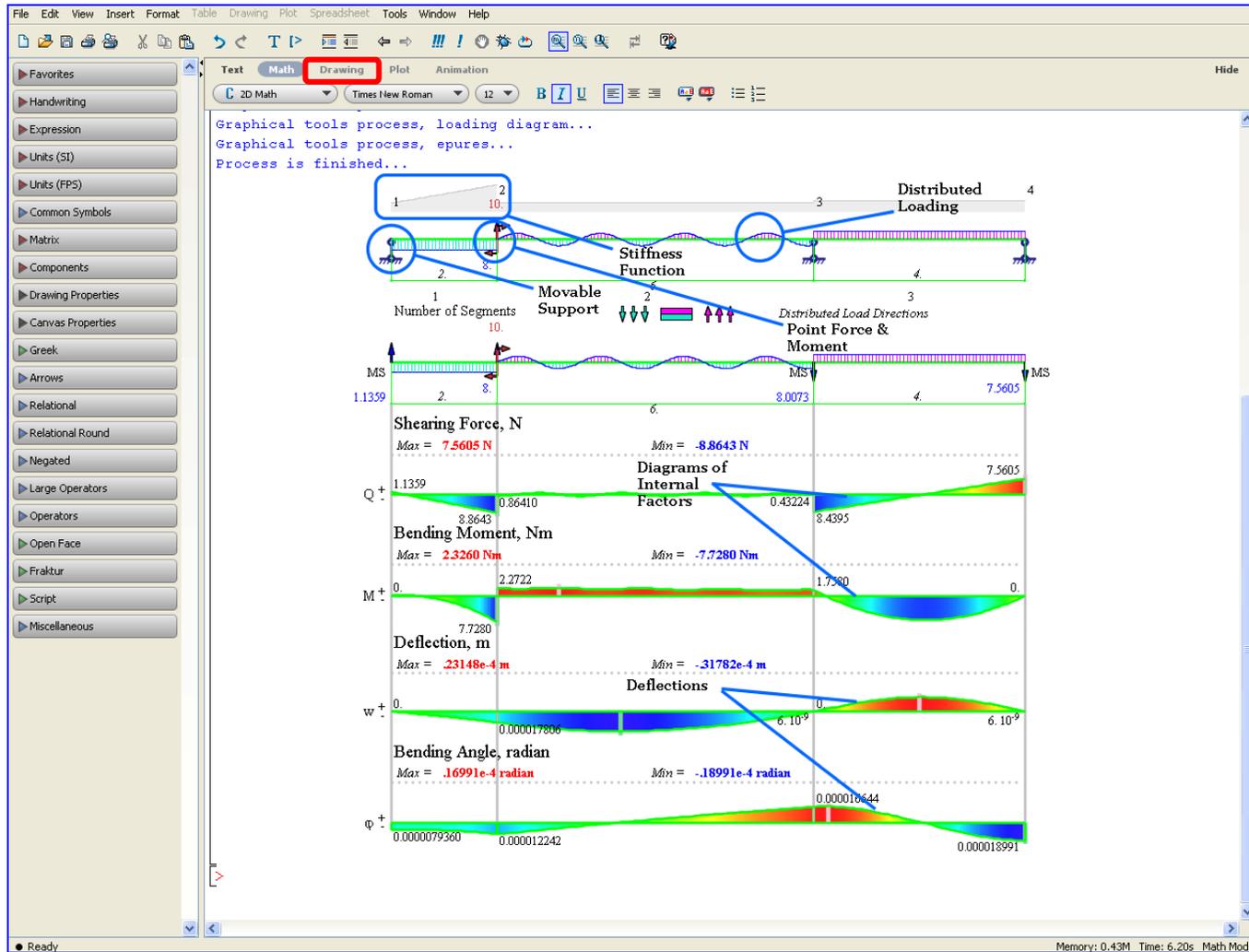
Mechanics of Materials™ Toolbox for Maple™

We can copy some code block from Mechanics of Materials help and paste it to current Maple code session. The result looks like presented.





Mechanics of Materials™ Toolbox for Maple™



Here we used so named **Drawing Mode** to accent few points of results.

Thanks for Mechanics of Materials Toolbox using.