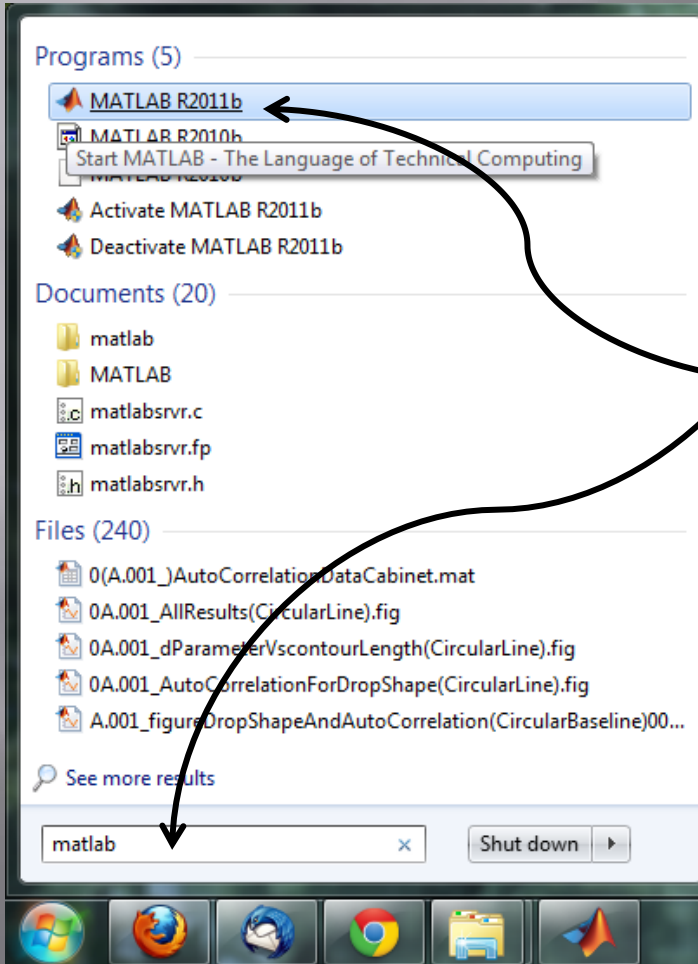


Using Matlab to Learn about Explosion (A computer Simulation)

Quick Reference
Guide for the
Students.





Press Windows 7 Icon and write in “matlab”.

Choose Matlab from the menu

Write in the text box:
"C:\Education".

```
list=dir(strcat(stringPath,'deleteDrakness*.png'));
for i=1:length(list),
pic=imread(strcat(stringPath,list(i).name));
pic(488:end,1:86)=true();
imwrite(pic,strcat(stringPath,list(i).name),'png');
end
list=dir(strcat(stringPath,'deleteDrakness*.png'));
for i=1:length(list),
pic=imread(strcat(stringPath,list(i).name));
pic(488:end,1:86)=true();
imwrite(pic,strcat(stringPath,list(i).name),'png');
end
explosion1
%-- 28/02/2012 15:41 --%
%-- 28/02/2012 15:43 --%
explosion1
%-- 29/02/2012 09:47 --%
```

The image shows the MATLAB R2011b software interface. The 'Current Folder' window is open, displaying a file tree with 'C:\Education' selected. A black arrow points from the text below to the arrow button in the file explorer. The 'Command Window' shows a prompt 'f >>' and a message 'New to MATLAB? Watch this Video, see Demos, or read Getting Started.' The 'Workspace' window is empty. The 'Command History' window shows a list of commands and their execution times.

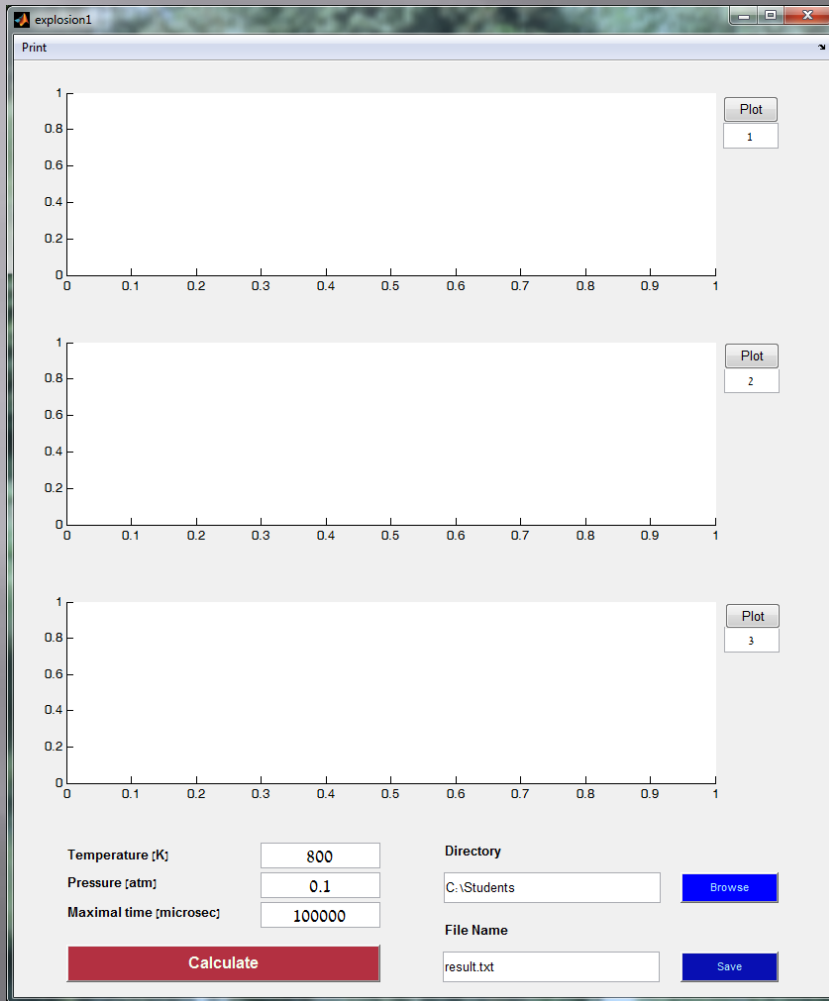
Or you may press on the arrow button and look for "C:\Education"

```
list=dir(strcat(stringPath,'deleteDrakness*.png'));
for i=1:length(list),
pic=imread(strcat(stringPath,list(i).name));
pic(488:end,1:86)=true();
imwrite(pic, strcat(stringPath,list(i).name), 'png');
end
list=dir(strcat(stringPath,'deleteDrakness*.png'));
for i=1:length(list),
pic=imread(strcat(stringPath,list(i).name));
pic(488:end,1:86)=true();
imwrite(pic, strcat(stringPath,list(i).name), 'png');
end
explosion1
%-- 28/02/2012 15:41 --%
%-- 28/02/2012 15:43 --%
explosion1
%-- 29/02/2012 09:47 --%
```

The image shows the MATLAB R2011b environment. The Command Window is active, displaying the prompt `>> explosion1`. A black arrow points from the text below to this prompt. The Workspace window is open, showing a table with columns for Name, Value, Min, and Max. The Command History window is also open, showing a list of commands including `pic=imread(strcat(stringPath,list(i).name));`, `pic(488:end,1:86)=true();`, `imwrite(pic,strcat(stringPath,list(i).name),'png');`, `end`, `list=dir(strcat(stringPath,'deleteDrakness*.png'));`, `for i=1:length(list),`, `pic=imread(strcat(stringPath,list(i).name));`, `pic(488:end,1:86)=true();`, `imwrite(pic,strcat(stringPath,list(i).name),'png');`, `end`, `explosion1`, and `clc`. The Command History window also shows timestamps for each command execution.

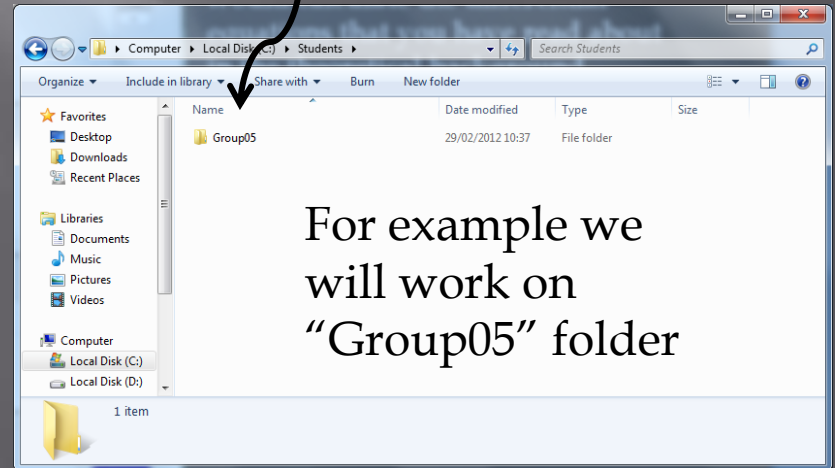
Your window should look like the presented slide.

Type “explosion1” in the command window and press Enter key



This is the simulation window that would calculate the differential equations that you have read about in the theoretical background.

In the first use:
open windows explorer, navigate to "C:\Students" folder and open a folder for your group as such:

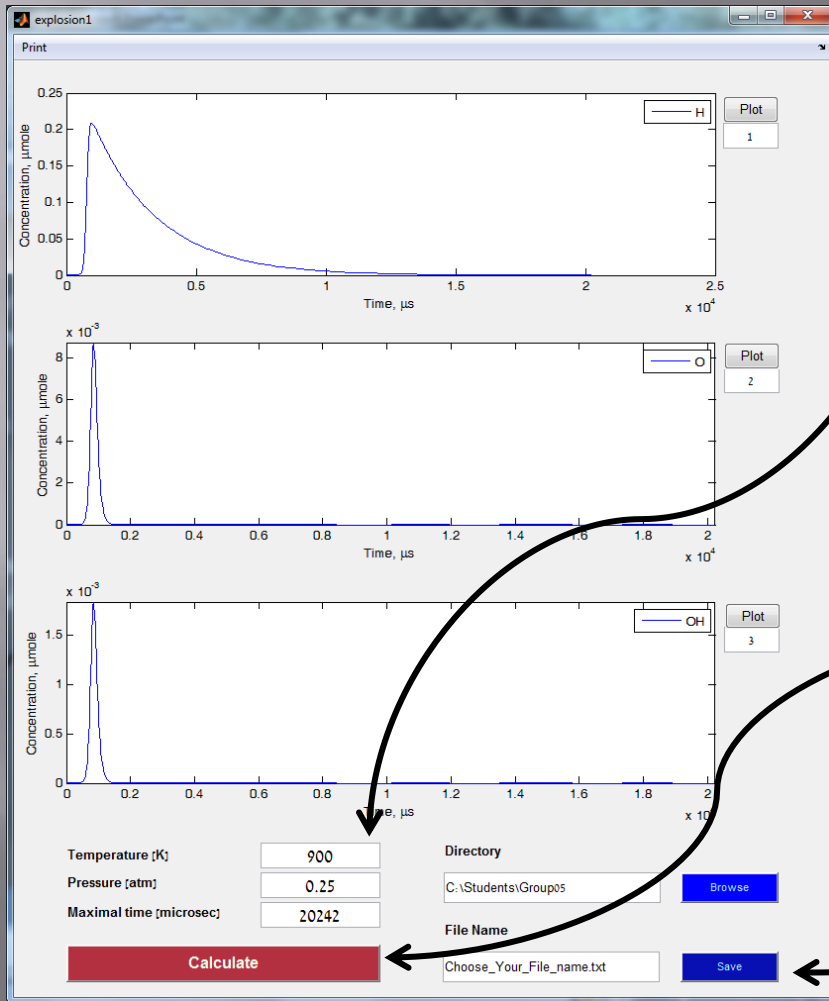


For example we will work on "Group05" folder

The screenshot shows a software window titled "explosion1" with a "Print" menu. It contains three vertically stacked empty plots, each with a y-axis from 0 to 1 and an x-axis from 0 to 1. To the right of each plot is a "Plot" button and a small box containing the number 1, 2, and 3 respectively. Below the plots are input fields for "Temperature [K]" (800), "Pressure [atm]" (0.1), and "Maximal time [microsec]" (100000). A red "Calculate" button is positioned below these fields. To the right, there are "Directory" and "File Name" sections. The "Directory" section has a text box containing "C:\Students\Group05" and a blue "Browse" button. The "File Name" section has a text box containing "Choose_Your_File_name.txt" and a blue "Save" button. Two black arrows originate from the text on the right: one points to the "Directory" text box, and the other points to the "File Name" text box.

Type in the directory text box the newly folder path that you have created for your group.

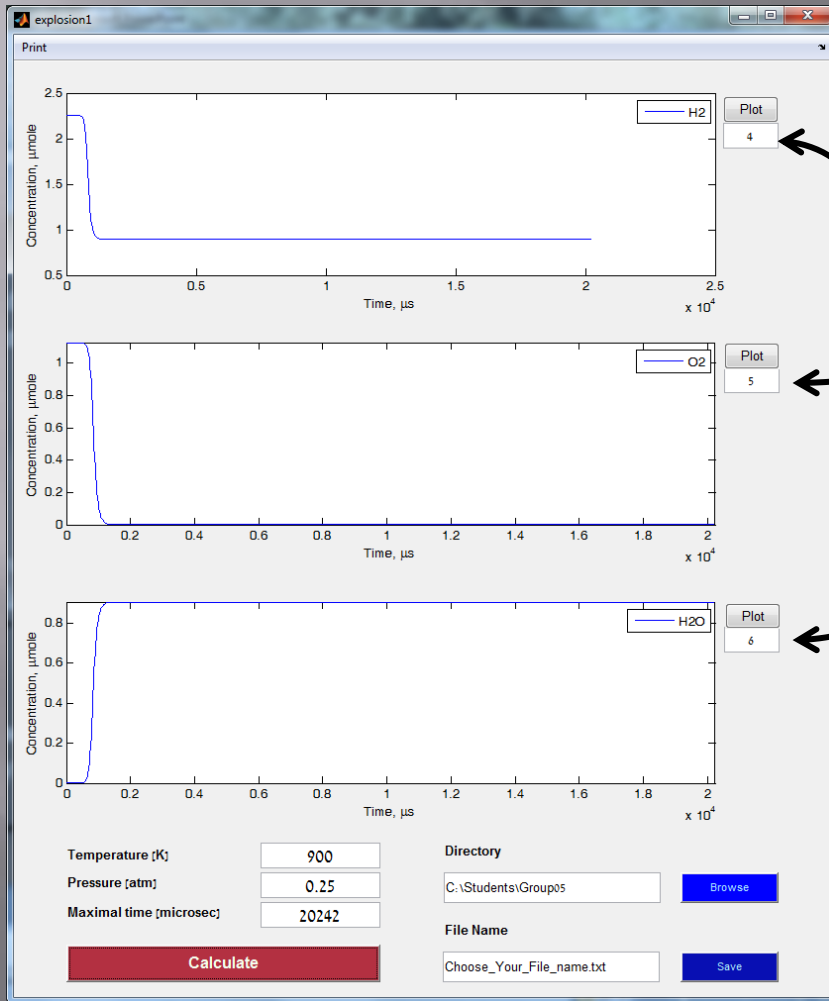
For each successful simulation, you are able to save your data to a text file.



For the simulation, enter temperature, pressure and maximum time scale

When you're done, press "Calculate" button.

If you wish, save your simulation data by pressing "Save" button.



You are able to see the simulation results for other substances' by changing the graph numbers.

Note! You must backup your data after every session of the lab to your email account (you may zip your files).

End