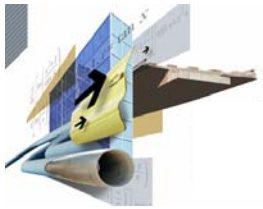
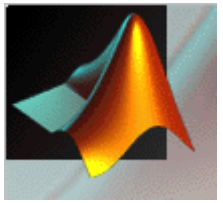




08-05-2003, 01:37 AM · View Entropia's Warnings · #1

Entropia

Join Date: Mar 2003

Location: Los Angeles, California

Posts: 149

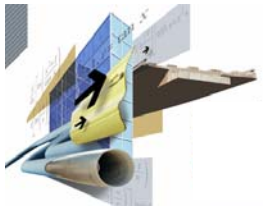
Read my Journal

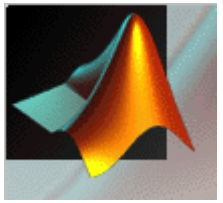
MATHCAD, MATLAB, maple & mathematica

What are the advantages and disadvantages of MATHCAD, MATLAB, maple and mathematica?

Which one do you use, and why?

http://www.physicsforums.com/showthread.php?p=327879#post327879





08-05-2003, 02:35 AM · View mmwave's Warnings · #2

mmwave

Join Date: Jul 2003

Location: northern california

Posts: 187

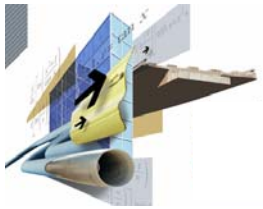
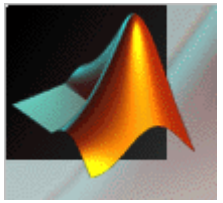
Read my Journal

I like Matlab best and it has a student version for $50 that does everything most people need. The syntax is similiar to C so if you know C it is easy to program. The documentation is not so good but I find Matlab easier to use than Mathcad. Most people learn it by modifying other peoples files.

Experts swear by Mathematica but novices swear at it. I am told it can do things that Matlab cannot but I have not yet discovered what that might be (twelve years use so far).

I have zero experience with maple but it is popular at some universities.

http://www.physicsforums.com/showthread.php?p=327879#post327879

08-05-2003, 06:50 AM · View plus's Warnings · #3

plus

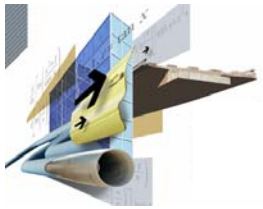
Join Date: Mar 2003

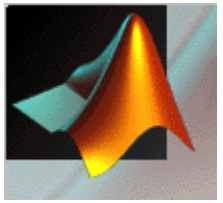
Posts: 278

Read my Journal

Having tried Maple and Mathcad, I much prefer maple. I found it easier to manipulate equations etc.

http://www.physicsforums.com/showthread.php?p=327879#post327879





08-05-2003, 08:15 AM · View Guybrush Threepwood's Warnings · #4

Guybrush Threepwood

Join Date: Jun 2003

Location: Bucharest, Romania

Posts: 527

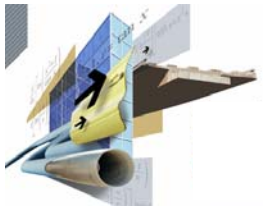
Read my Journal

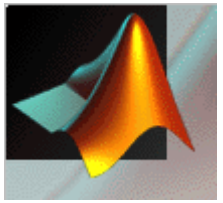
Quote:

> *Originally posted by mmwave*
> **I like Matlab best and it has a student version for $50 that does everything most people need. The syntax is similiar to C so if you know C it is easy to program. The documentation is not so good but I find Matlab easier to use than Mathcad.**

I'm a MatLab fan myself too. And mmwave says it just right. I tryed MathCad before that and I found it a bit difficult.
MatLab has a very good communications library and cool image processing functions.
I also heard good things about Maple....

http://www.physicsforums.com/showthread.php?p=327879#post327879





08-05-2003, 08:54 AM · View enigma's Warnings · #5

enigma

PF Mentor

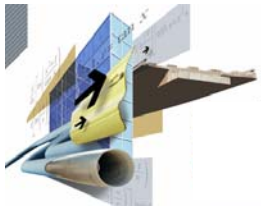
I use Matlab almost exclusively for my assignments. It has enormous capabilities, and is very simple to figure out the basics.

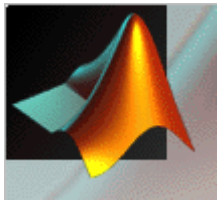
The only other software package which you listed that I have seen was Maple. I didn't get very deep into it... the hyperstringent syntax requirements really put me off to it.

_____

-enigma

http://www.physicsforums.com/showthread.php?p=327879#post327879





08-05-2003, 01:30 PM · View chroot's Warnings · #6

chroot

PF Admin

Join Date: Mar 2003

Location: Bay Area, Calif.

Posts: 4,512

Read my Journal

Matlab actually uses Maple as its 'Symbolic Toolbox.'

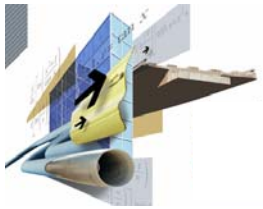
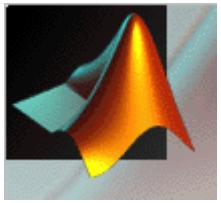
I used to prefer Matlab for numerical computation, and Maple for symbolic computation. Mathematica has, IMO, very unusual and sometimes very cumbersome syntax, but does everything Matlab and Maple do all in one place.

Mathematica is also generally regarded as having the best graphical capability, and being the fastest numerical program available.

Overall, I prefer Mathematica, but end up spending a lot of time in help files trying to remember the right syntax for rarely used functions.

Another oddity is that all of the computer algebra programs are prone to occassionally producing bad equations that, well, look right! We often end up running the same caclulations on Matlab and Mathematica side-by-side to see if the two packages agree on the solution. The ODE solver was almost always the culprit. Mathematica version 5 (hot off the press) is supposed to have a totally redesigned and reimplemented ODE solver, so perhaps it will behave better.

- Warren

08-05-2003, 02:25 PM · View Lonewolf's Warnings · #7

Lonewolf

PF Contributor

Join Date: Apr 2003

Location: UK

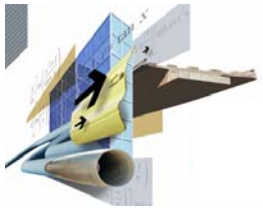
Posts: 260

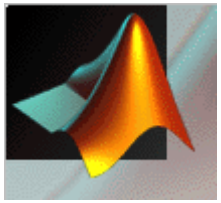
Read my Journal

I use MAPLE and MATLAB, and love them both like my children.

I use MAPLE as an expensive calculator, usually when I want to check things I've worked out. I use MATLAB for project work. I like MAPLE since it's easy just to type something up and see what pops out. Not used any of the others listed.

http://www.physicsforums.com/showthread.php?p=327879#post327879





08-06-2003, 09:03 PM · View Entropia's Warnings · #8

Entropia

Join Date: Mar 2003

Location: Los Angeles, California

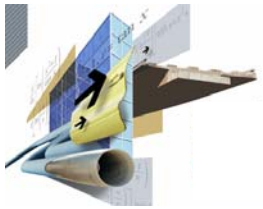
Posts: 149

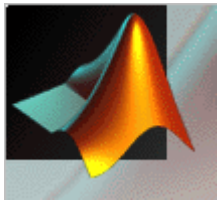
Read my Journal

What are any advantages and disadvantages of this other software compared to MATHCAD?

I have been a MATHCAD user for years. I have been thinking about expanding my horizons.

http://www.physicsforums.com/showthread.php?p=327879#post327879





08-21-2004, 04:59 AM · View buffer's Warnings · #9

buffer

Join Date: Aug 2004

Posts: 1

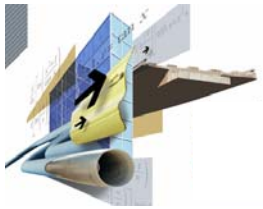
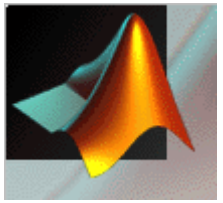
Read my Journal

Hi!
I am a user of mathematica and I can imagine why novices/matlab find the syntaxes a bit of a letdown. Heres what i do all the time.

1) No need to remember function names
All mathematica functions start with capital letters, so you always know that if you want to integrate you need to begin with the letter "I". Next hold down the control key and press "k" (ctrl + k). All the functions starting with I appear right under your fingers! Keep typing (e.g: integr...) and you will see that the list keeps on filtering. Or you can just select the function from the drop down list you were looking for and hit enter. You dont even need to type the name of the function yourself.

2) No need to remember syntaxes
After completing the the name of the function press "shift+control+K". The whole syntax will pop up! As a bonus dummy parameters are in place too! :surprise:

Also, you can always type ?FunctionName to get help on a function (right

08-29-2004, 01:32 PM · View cronxeh's Warnings · #10

cronxeh

Join Date: Apr 2004

Location: nyc

Posts: 82

Read my Journal

umm.. you dont need any of that stupidity in Matlab.

in matlab you just press int and click tab twice, and it will give you all possible functions

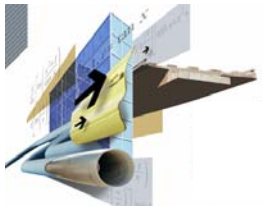
and if you dont know how to use it, type 'help int' and it will give you the syntax with examples.

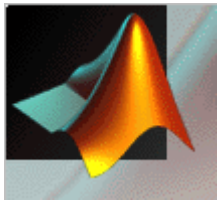
matlab's beauty is in simple, yet very powerful set of tools.

ive tried maple and mathematica and i must say they both suck just for those reason - they are overly complex

go with matlab - you wont regret it

http://www.physicsforums.com/showthread.php?p=327879#post327879





09-22-2004, 09:58 PM · View Chrono's Warnings · #11

Chrono

Join Date: Nov 2003

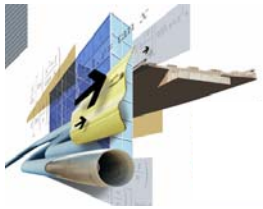
Location: South Carolina

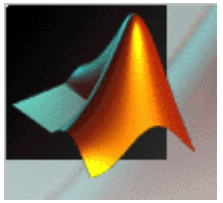
Posts: 147

Read my Journal

My school strictly uses Mathmatica, and, as you said, the students swear at it. I, on the other hand, don't have much of a problem with it. I've thought about buying it but haven't decided if it's worth shelling out $135 for it.

http://www.physicsforums.com/showthread.php?p=327879#post327879





09-29-2004, 12:20 PM · View graphic7's Warnings · #12

graphic7

Join Date: Jun 2004

Posts: 143

Read my Journal

It's also from my experience that Mathematica doesn't have standard syntax. Often when loading an external package, such as Graphics`, you'll find that it's rather difficult to plot vectors compared to plotting vector fields because of the syntax issues.

Another Mathematica gripe is the way it treats matrices. Matrices are treated as lists, and in order to get a list to look like a matrix you must add an annoying "MatrixForm."

http://www.physicsforums.com/showthread.php?p=327879#post327879