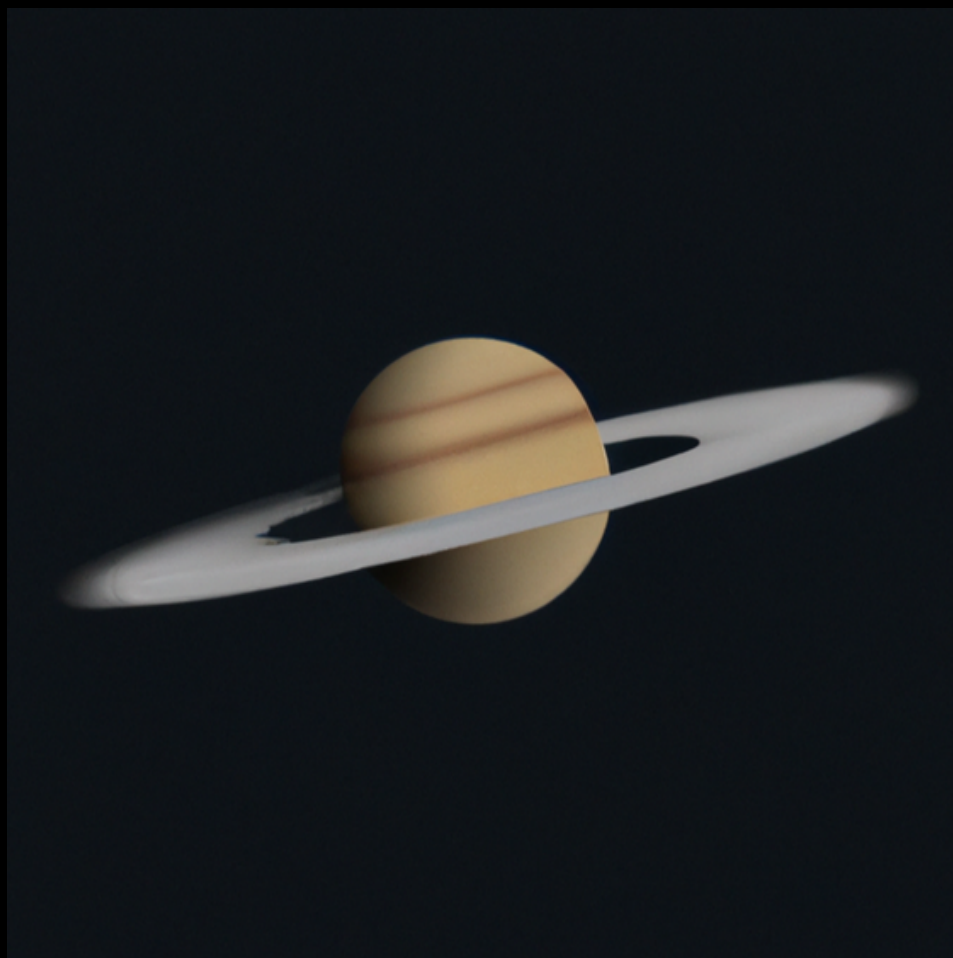


Dev Kapadia



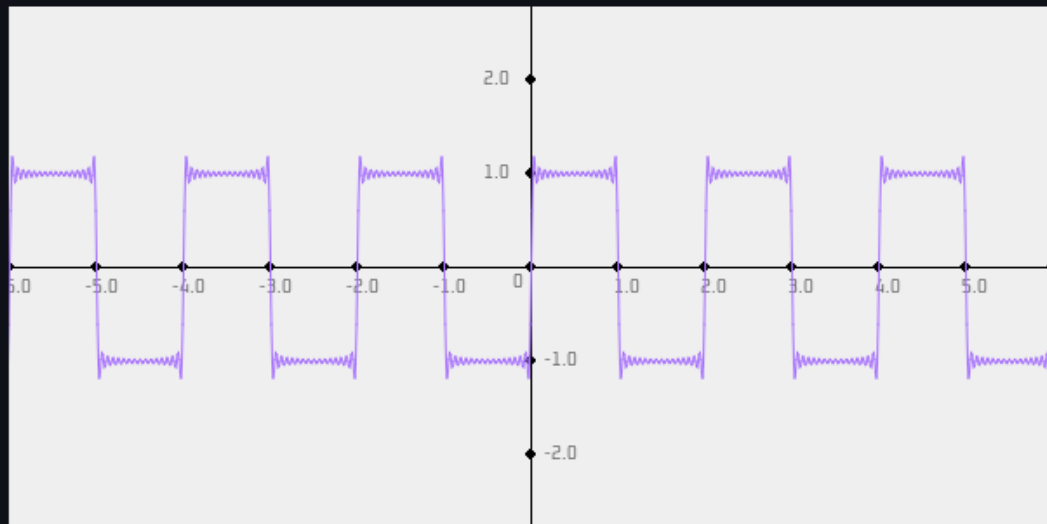
SKARCADE SUITE

# Insidia: A User Guide

# Contents

|                                    |     |
|------------------------------------|-----|
| An introduction to Insidia         | 3   |
| Demo home page                     | 4   |
| Main graphing calculator           | 5-6 |
| Exporting your creations with Opus | 7-8 |

## Insidia: Your partner in math



GRAPHING  
DONE RIGHT.

# Welcome.

Introducing Insidia, a **powerful, lightweight and accessible** graphing calculator. Insidia runs on your computer - maximising the speed at which you can graph, with no internet required.

Insidia can not only graph, but provides you, the lovely user, with a carefully crafted **toolbox** of cartesian treasures. Navigate your graphs with ease with **smooth panning and scaling**, and deepen your understanding of graphs with meaningful **point tooltips**. You can even save and share your graphs with other Insidia users, or show to your peers through exporting the graph as an image.




Lets learn more.

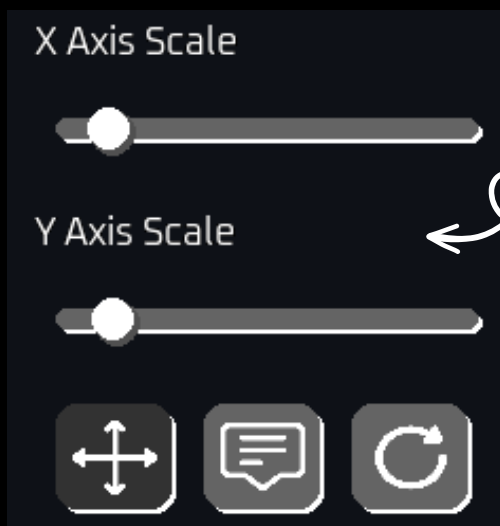
GRAPHING  
DONE RIGHT.

# Home Sweet Plot.

Insidia's opening page greets you with a sidebar, demo graph and some instructions - because we get it, it looks complex at first glance.

The demo graph lets you play around with 4 awesome tools!



- The **PAN** tool, indicated by the arrowed crosshair  is selected by default. **Hold down** the left mouse button and **drag** your mouse to move through the graph!
- The **POINT** tool, indicated by the tooltip bubble , can be selected at any time by **clicking** the left mouse button whilst hovering. Once enabled you will no longer be able to move (**PAN**) the graph. **Hover** over the graph as you wish, and Insidia will show you the line & it's X and Y coordinates at that point!
- The **ORIGIN** tool, indicated by the cycle icon  can simply be **pressed once** to reset your position so that (0, 0) is in the centre. It will also reset the X and Y sliders. This doesn't change your mode from **PAN** or **POINT**, that will remain as is.



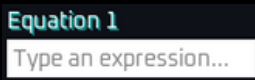
- Finally, Insidia has **SLIDERS**. These adjust how zoomed in or zoomed out the X and Y axis are, respective to their individual sliders. To use the slider, **hold down** the left mouse button and **slide** your mouse in your preferred direction.
- **Moving** the slider right will zoom in, and left will zoom out. As you **move** in either direction, the X / Y axis labels will adjust accordingly.

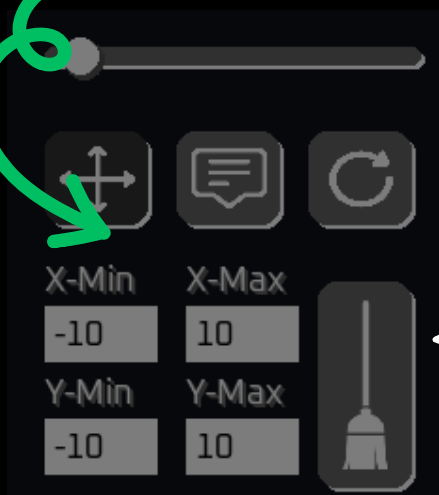
GRAPHING  
DONE RIGHT.

# Getting Graphing

Great! Now that you've seen the demo, **navigate** to the **GRAPHING CALCULATOR** page in the sidebar. **Note** that you can **close and reopen** the **sidebar** with the  and  buttons, respectively!

The **GRAPHING CALCULATOR** is visually quite similar to the demo, except that it is empty. This page adds 3 more utility features to complete Insidia's skillset:

- Textboxes! There's two types for you to use.
  - **EQUATION INPUTS** - These are each labelled with a unique name and colour, e.g. . **Click** on one to enter typing mode. Here, you may **type** any valid relation between X and Y (see more on the next page). Once you have finished, **press Enter** or **click** somewhere else to finish. You may find an error - commonly, this is fixed by multiplying terms with a \* symbol instead of directly, e.g.  $2\sin(x)$  becomes  $2*\sin(x)$ . Make sure to close your brackets, too!
  - **DOMAIN AND RANGE** - The graph is infinite - but your selected relations may not be. **Enter** any integer here to change how much of the graph will display your relations. **Note** that the Maximas (X-Max and Y-Max) must be **greater than** their respective Minimas (X-Min and Y-Min)



- **CLEAR** - Another button! This one is similar to the **PAN**, **POINT** and **ORIGIN** buttons we covered before. Though, it is quite easy to spot with its oblong shape, in comparison. This button, when **pressed** with the left mouse button, will fully **reset** the graph, removing all equations, domain, range and situate the viewport back to the origin at (0, 0).

GRAPHING  
DONE RIGHT.

# Getting Graphing

Awesome. Lets have a look at what makes a **valid relationship between X and Y**, and what Insidia can graph for you. Here are all the mathematical functions Insidia supports:


- **algebra**
  - x and y variables: **Type** them as just "x" or "X" / "y" or "Y"
  - Standard mathematical operations: +, -, /, \*, =
    - Note that if you **do not provide an equals sign** in your input, the equation will automatically **equate to Y**. (e.g. inputting X will make it Y=X)
- **trigonometry**
  - All trigonometry is supported, including sin, cos, tan, arcsin, arccos, arctan, sec, csc, and cot!
  - To use trig, simply **write the function** followed by brackets, and the subject of the function within. e.g. **sin(pi)**
- **logarithms**
  - **Type** "log" or "ln", followed by brackets containing the subject, e.g. "log(e)"
  - Logarithms are represented with base E. You may use the change of base formula to get a different base! (revise your math lessons c;)
- **exponentials**
  - **Raise** a number, symbol or constant by **adding** a caret (^) followed by the exponent. If the exponent is a function or fraction, **enclose** it in brackets.
- **factorials**: Add a ! after your expression
- **constants**: Pi and eulers constant are both supported! **Type** "pi", or "e", respectively.
- **absolute values**: **NOT WRITTEN IN THE FORM " | x | "**! instead, **use "abs(x)"**

GRAPHING  
DONE RIGHT.



# Sharing is caring.

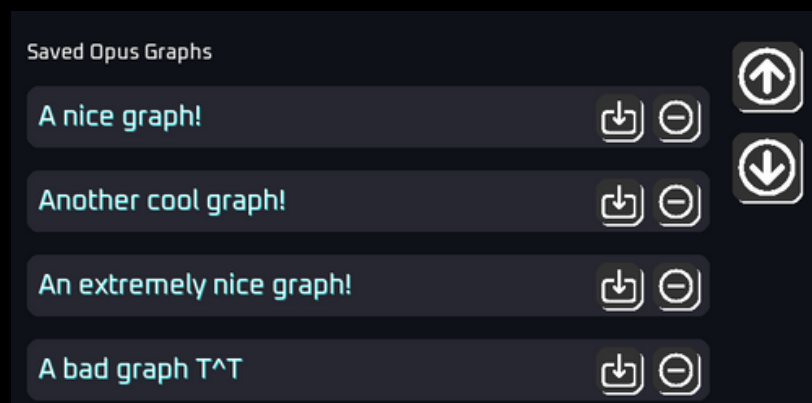
That isn't all that Insidia has to offer. If you have a keen eye, you may have noticed the **OPUS** on the sidebar. Selecting this option will take you to a page with a few buttons. Lets talk about what you can do here!


There are two big rectangular buttons at the top:


- The first is the **SAVE** button.  Hovering over and pressing the left mouse on this button will convert your graph in the **GRAPHING CALCULATOR** page to a local file stored on your computer. Upon pressing, you will be prompted to type in a name for the file stored on the computer. Non-alphanumeric characters will be automatically removed. Press Escape if you wish to withdraw from the save. Once the save has performed, Insidia will notify you where it has been saved. You can then share this file with other Insidia users - or simply store and view later. Note that if you have nothing graphed in the **GRAPHING CALCULATOR**, no file will be saved!

Any (.opus) files saved locally upon this action in the directory specified by Insidia will then show in your **OPUS** page. Even after exiting Insidia and rejoining, these files will be readily accessible from the **OPUS** page.

To retrieve a saved graph, find it in the list beneath the two large buttons. Don't worry - we'll cover the next one soon. You may use the scroll buttons  and  to navigate through the list if you have multiple files stored.



To load a graph back into your **GRAPHING CALCULATOR**, press the load icon  and accept the prompt.

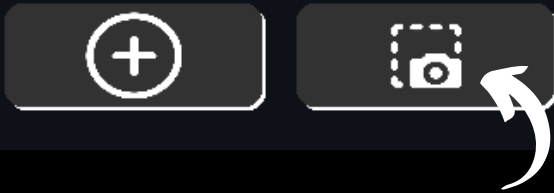
To delete the saved file off your computer, the subtract button  may be pressed. Once again, you will be prompted to double check your decision.

GRAPHING  
DONE RIGHT.

# Art? Math? Weird crossover.

## Insidia: Opus

Export your graphs with Insidia Opus. Save a graph (.opus) to use in Insidia or take a snapshot (.png).



The other button, **SNAPSHOT**, exports your current **GRAPHING CALCULATOR** viewport as a PNG file to create a **visually appealing** artistic view of the graph.

After **hovering over and pressing** the **SNAPSHOT** button with the left mouse key, you will be presented with an identical prompt to **enter a file name**.

### Export current graph

'ENTER' key to finish!

Or, press Escape to cancel.

Once again, any non-alphanumeric characters will be automatically removed. You may **press Escape** to **cancel** the export. **Pressing ENTER** after entering a valid file name will **export** your graph as a **PNG** image. **Insidia will notify you** where it has been saved.

### Snapshot Opus Graph



Successfully saved snapshot to "D:\Year  
12\SDD\Projects\Insidia\dist\opus\lovelysnapshotofacurve.png".

OK