# Python Training, MM1, MMS

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#### Resources

All files are available at github.com/xandhiller/maths\_notebooks.



<sup>&</sup>lt;sup>1</sup>Usually respond in about 24 hours.

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### Resources

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Solutions can be provided if you get stuck.



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 $00\_Python\_Basics.ipynb$ 

00\_Python\_Basics.ipynb
01\_Differentiation\_Integration.ipynb

```
00_Python_Basics.ipynb
01_Differentiation_Integration.ipynb
02_Vectors.ipynb
```

```
00_Python_Basics.ipynb
01_Differentiation_Integration.ipynb
02_Vectors.ipynb
03_Plotting.ipynb
```

```
00_Python_Basics.ipynb
01_Differentiation_Integration.ipynb
02_Vectors.ipynb
03_Plotting.ipynb
04_Matrices.ipynb
```

# Running the Files

<Microsoft Azure Demo >

#### Structure

00\_Python\_Basics.ipynb can be set as pre-requisite reading with the use of the setup document and video on how to run Azure Notebooks.

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The remaining three for MM1 and MMS can be run in whatever order the coordinator sees fit.

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01\_Differentiation\_Integration.ipynb

02\_Vectors.ipynb

03\_Plotting.ipynb

04\_Matrices.ipynb

There also other notebooks that were developed for IMAM (37132).

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These can be used by other courses, should you see fit.

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```
01_Differentiation_Integration.ipynb
```

- 02\_Vectors.ipynb
- 03\_Plotting.ipynb
- 04\_Matrices.ipynb
- 05\_Riemann\_Sums.ipynb
- 06\_Partial\_Derivatives.ipynb
- 07\_Optimisation.ipynb
- 08\_Vector\_Calculus.ipynb
- 09\_Integrals\_and\_Animation.ipynb
- 10\_Differential\_Equations.ipynb

## **Demos**

 $<\!$ Run through Differentiation and Integration >

### **Demos**

 $<\!$ Run through Differentiation and Integration >

<Run through Matrices >

# **Problem Solving**

Produce a function that prints out odd values up to a number n.

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Produce a function that prints out odd values up to a number n.

Produce an implementation of Newton's Method.