# Computing for mathematics handout 5 - Object Orientated Programming

Lecturer: Vince Knight

Office: M1.30

email: knightva@cf.ac.uk

**Office hours: Thursday 1300-1500**

## What you have learnt this week:

* How to create a class and an instance of a class;
* How to give a class attributes;
* How to give a class methods;
* How to create new classes from old through inheritance.

## Question 7

Many people found question 7 quite a challenge. Here is a similar question.

*The list fields contains two columns of data: each representing the width and lengths of fields. For a field to be profitable they must have an area of at least 50 square metres, how many fields in our data set are profitable?*

fields = [[4,5], [6,2], [1,7], [8,2], [4,1], [7,2], [8,2], [9,1], [10,56], [83,15], [4,1], 53,2]]class Field(): """ A class for our field """ def \_\_init\_\_(self, x, y): self.width = x self.height = y def profitable(self): return self.width \* self.height >= 50fields = [Field(f[0], f[1]) for f in fields]print len([f for f in fields if f.profitable()])

## What you should do next:

* **Start the next sheet**: this is a short one and the aim is for you to be familiar with Sage.
* Continue to revise for the class test: work through all your lab sheets. If you can do exercises in the lab sheets (not just 'understand them' but actually 'do them') you will be fine.
* To make the best use of the lab sessions turn up having finished your sheets;
* If anything is still unclear **please** come and see me during office hours.