# Cybercrime with Snap!

## Accessing Rows and Columns

We are able to access the rows in our data table at any time by calling the number of that row (item) from the outer list:


We are able to access the columns in our data table at any time by mapping the number of that column (item) from the inner lists across every row:


## Activity 1: List of lists?

In your own words explain below what is meant by *Snap!* storing data as a list of lists...

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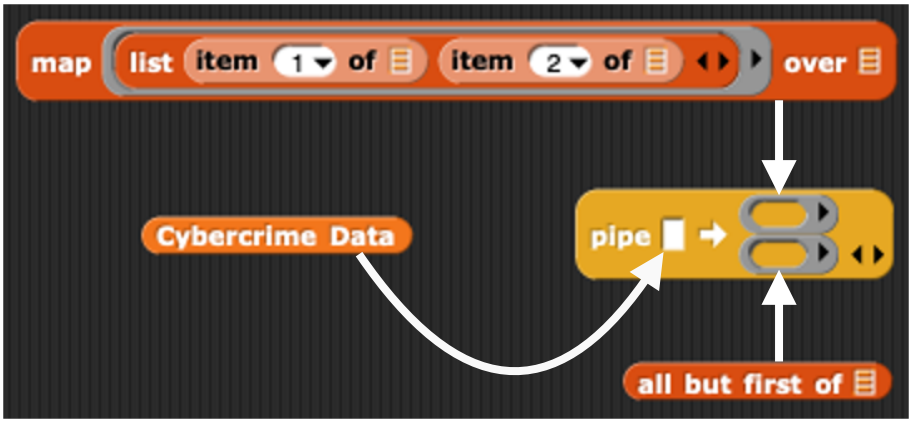
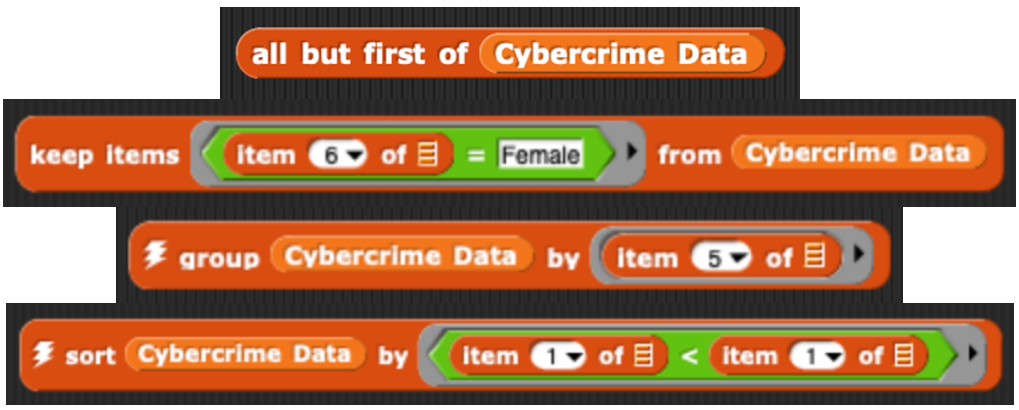
## Pipe

The **pipe** function allows us to pass one function to the next, making it easier to visualise how we're manipulating the data. This avoids building one large nested expression.




## Data Manipulation

These are the data manipulation blocks that will be most useful to us. Combining these with **operator** blocks will allow us to **filter**, **group** or **sort** our data in any way.



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## Plot

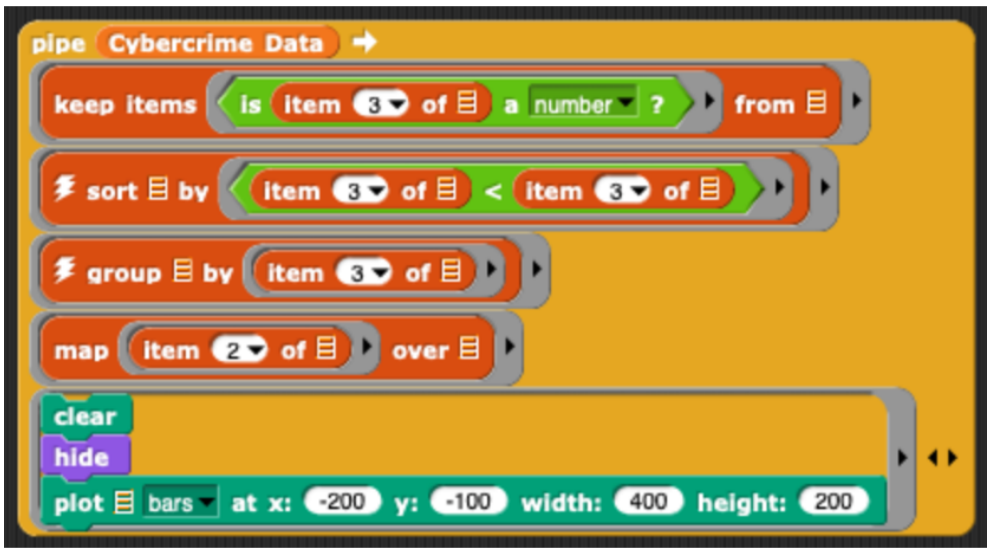
The **plot** function will plot our data on the stage. This can be used at the end of a **pipe** function, or as part of a larger nested expression.

We must use the **map** function (or store the desired values as a variable) before passing the data to the **plot** function. This is because the plot can only contain one set of values (one list) for the y-axis, the x-axis is taken automatically from the number of entries.

**Labels** and **scales** are not automatically created in *Snap!* and there is no block that will create them for you. This is a time consuming task so scales are not expected of you.

Remove the **plot** from your **pipe** function so that you understand the data that you are passing.

The **hide** and **clear** blocks are used to hide the sprite and clear the stage before plotting.



## Activity 2: Plotting

Attempt creating plots to gain insight into the data. Here are some suggestions you could try:

- Bar chart of the number of crimes per year
- Bar chart of the number male/female suspects
- Pie chart of the different reasons for court appearances
- Two bar charts for the ages of male/female suspects
- Two overlapping line graphs for the number of male/female suspects per year

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## Discussion: Activity Title Here

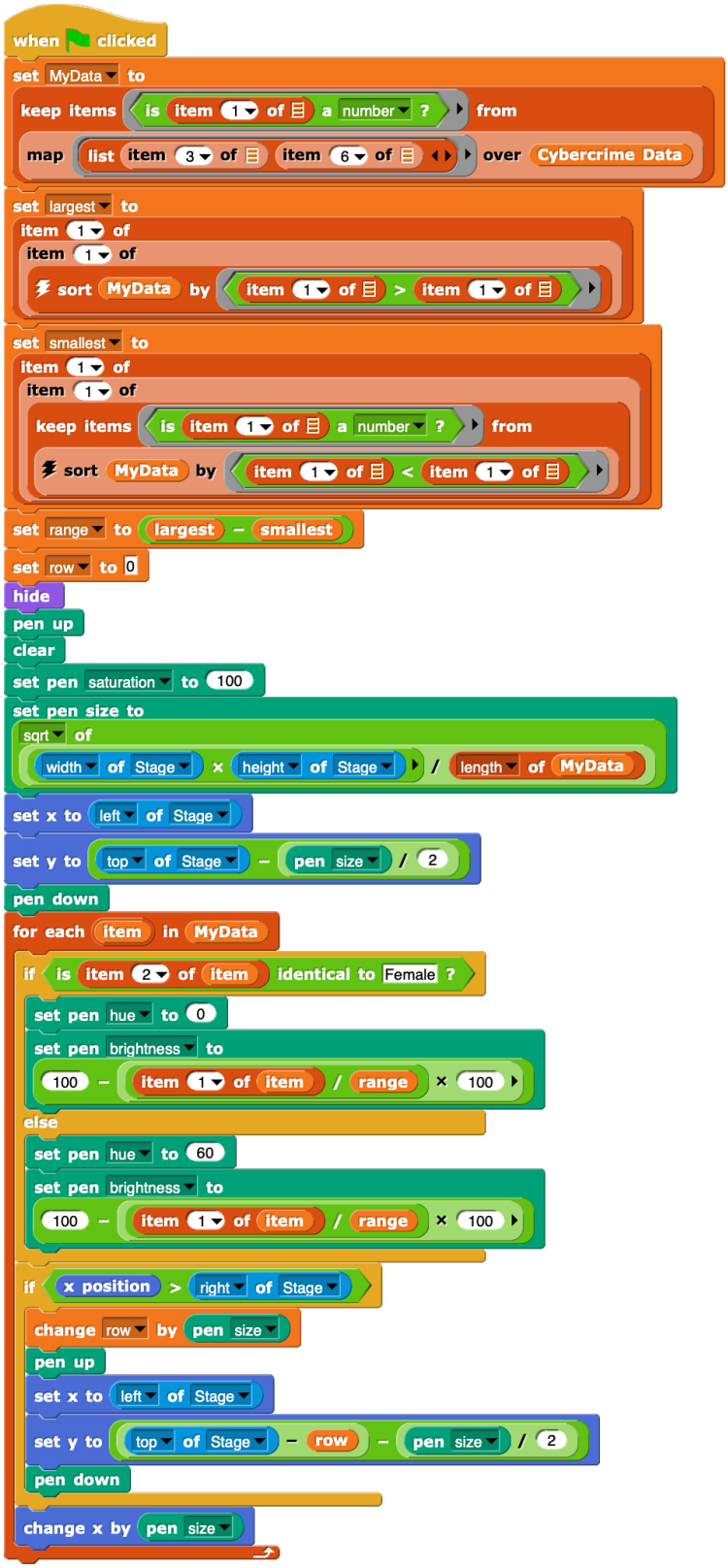
This is an example extension to the data visualisation task.

You can attempt implementing this larger code if you're ahead.

The benefits of this code are:

- It scales correctly to the screen, so there is no need to find an appropriate pen size.
- It finds the range of the data that you are using (in this example the **age**), so that the brightness values will always scale to the data.

You can try to use and adapt this code to investigate other elements of our data set.



## Accessing Rows and Columns

An example is an example of an example. For example, you take an example and make an example of it:

1. **Example**
2. **Example**
3. **Example**
4. **Example**
5. **Example**
6. **Example**
7. **Example**

Here you can see **seven** examples of an example.

Can you think of any more?

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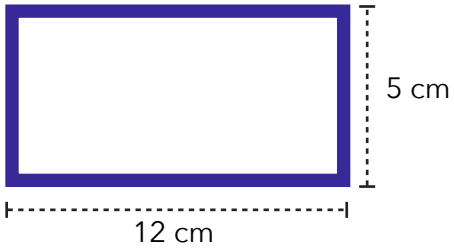
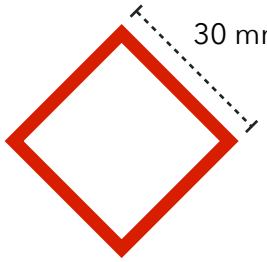
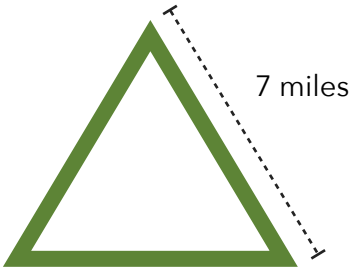
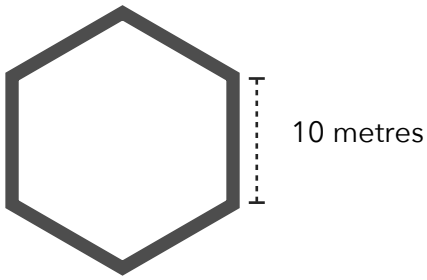
## Activity: Designing Examples

1. For each of these examples of shapes, describe what the example is showing.



## Information

You can fill this page with extra information, self-learning, resources, pictures, guides, or step-by-step instructions.

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## Data Manipulation

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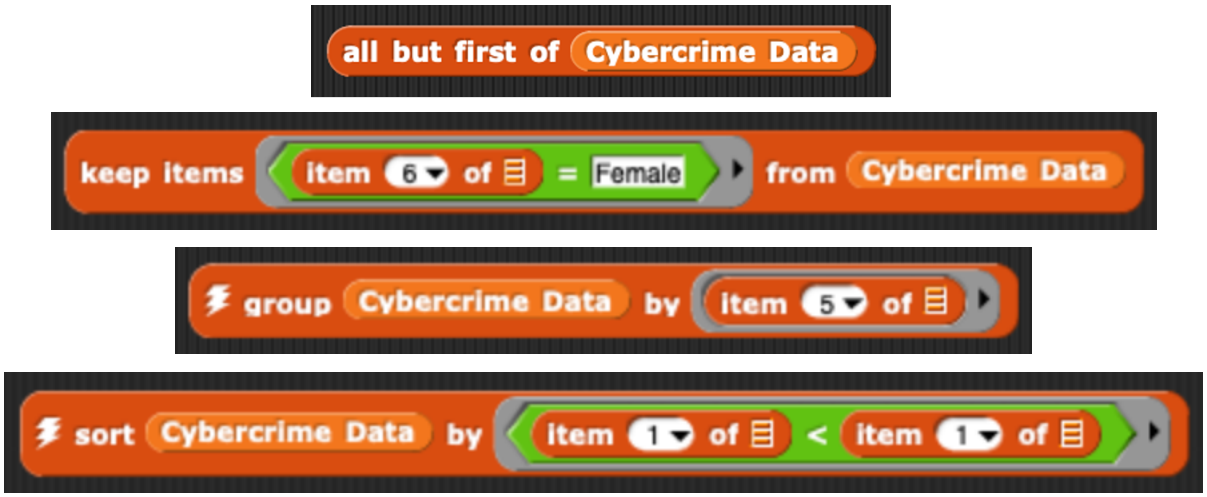


## Activity 2: How to Manipulate Data?