

Creative coding 2 Data Visualisation

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Creative coding

Create bar charts to visualize data

Year 2 2021-22

DL836 BSc (Hons) in Creative Computing

# Useful programming methods/algorithms/approaches

1. **Variables**

Setting up variables at the start of a file sets you up for good structure, variables with clear names can be very useful when writing a long script. It is easier to refer to one variable like spacing for example, instead of setting multiple values in different parts of the file it is better to use a variable, so everything is the same. It also helps when changing sections in a file instead of entering all the different functions and arrays written you can just change the variable value to alter the file its better, smatter code.

1. **Arrays**

Arrays help us to display a range of values that are inside it. Arrays can be identified by hard brackets the values inside the array can be just a range of words or numbers, there can also be objects inside the array, the objects have properties with values. To access an element in an array we use the array name and the index number. To access properties of an object we use the dot notation.

1. **Loops**

For loops allow use to pass through data and execute a block of code. For a loop to work it needs to know when to start how long it should go on for and lastly it should know how it should step either forward or back and how it will increment. Inside a loop it needs to know what it is doing every time it is looping. We can also do a for loop within a for loop the outer loop is executed first once that is finished the inner loop is executed. This is useful for displaying things like grids.

1. **Map Function**

When the map function is used it makes an array calling a particular function on each element in the array. The map function has several parameters, it needs the number that is being converted it can be one value or an array of values. It needs the lowest value and the maximum value of the array, lastly it needs the minimum value the smallest number should be mapped or scaled to and the maximum value the values should be mapped or scaled to. Once this is done you need to return the value the function has just mapped.

1. **Classes**

Using classes in programming is very helpful when making a lot of the same objects with small changes to each object. Classes should be linked to in the index file to check this has been done you can check the sources in the webpage. The class itself can contain a constructor this is a template that creates an object. The constructor can have several parameters or no parameters. A class can have several methods that can contain the classes parameters. To create a new object a new variable should be declared in the sketch file, ideally at the top, then in the setup the variable will be used to create a new object. The keyword for a new object is new. The last step is to display the object in the draw function.