

Make_Array

This part of the program is the "Make_Array" procedure. First we use a loop to make a list (called "ordered") holding the numbers 1 - 15.

Then we makes random choices from this list, adding them to the new list "Array". We delete the ones that have been used, so that we only get each number once.

```
when I receive Make_Array
  delete all of Array
  delete all of ordered
  set i to 1
  repeat 15
    add i to ordered
    change i by 1
  repeat 15
    set random_number to pick random 1 to length of ordered
    add item random_number of ordered to Array
    delete random_number of ordered
  stop script
```

Bubble_Sort

Here we loop over the array for the same number of times as there are numbers in the list.

Nested within this loop is another in which we loop over the list, checking to see if any number is greater than the one next to it.

If it is greater, then the numbers get swapped over.

As it's running, you can see the numbers getting swapped until the list is fully sorted.

If you enjoyed this, you might want to adapt the program so that it sorts numbers that the user provides, instead of this randomised list.

```
when I receive Bubble_Sort
  set i to length of Array
  repeat until i = 1
    set j to 1
    repeat until j = i
      if item j of Array > item j + 1 of Array
        set temp to item j of Array
        replace item j of Array with item j + 1 of Array
        replace item j + 1 of Array with temp
      change j by 1
    change i by -1
  stop script
```

Scratch
On!

