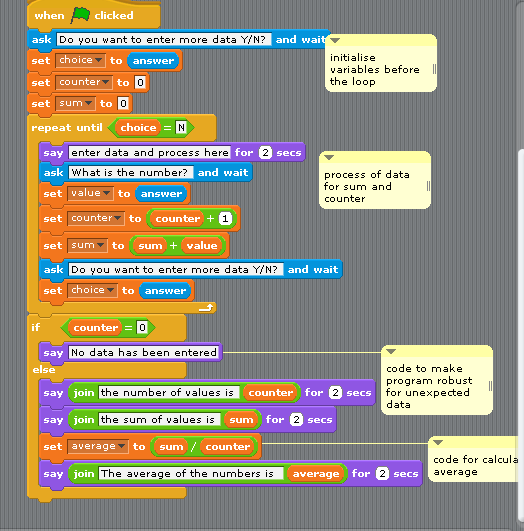
**Data Validation code**

When your program is working on **Expected Data** you need to add in code to make it robust for **Unexpected data**

This may be data that is out of range or invalid or if no data is entered at all - does your program cater for this?

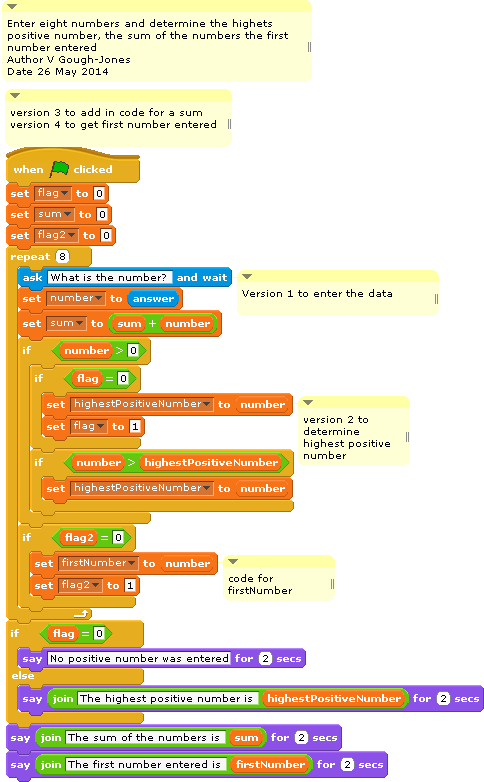
**No data entered**:

***Case 1***



And…….

Note the statement for statistical output to ensure no division by zero



Note the code here for unexpected data of NO positive numbers entered

Case 2

**Data that is out of range and therefore invalid**

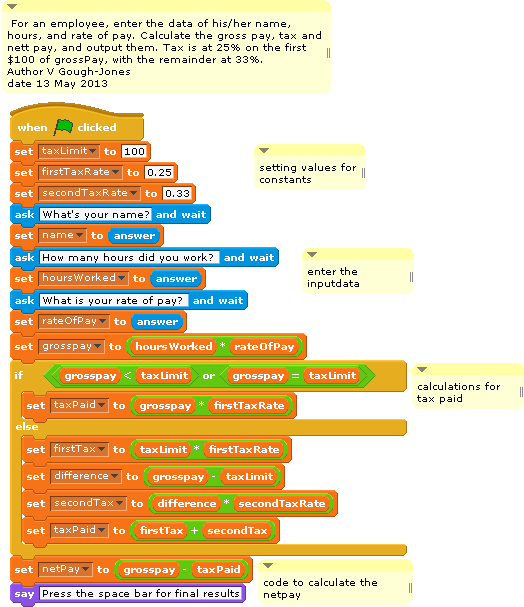
Cannot have hours worked less than zero or greater than 60 (say)

Test with -10 and 67… at least two consecutive out of range values

Cannot have negative rate of pay

Test with -12.50 and -10

*(Other examples could be no more than 24 hours in a day or an age between 0 and 110)*



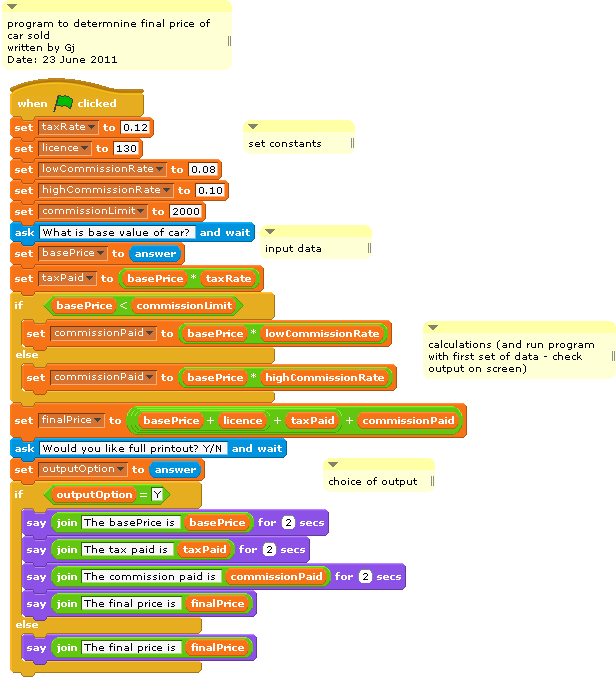
This is the code for data entry that needs to have data validation code added

***Case 2***

Note that boundary data also needs to be tested

Test with 0 and 60 for hoursWorked

Test with 0 for rateOfPay



This data entry could be tested for only Y or N

This code needs data validation - cannot have negative purchase price

Test with -100 and -500

Note that the boundary values (limits) also need to be tested

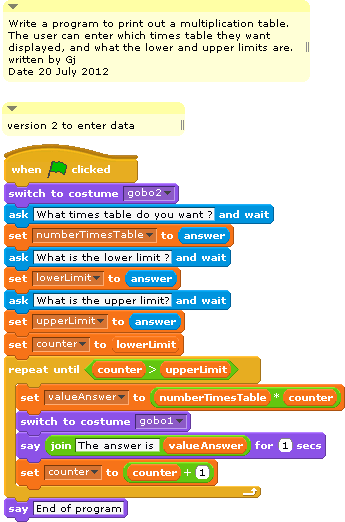
Use data of 0 for purchase price

***Case 3***

**Testing for type of data - what would be valid or invalid**

In this example, the numbers entered should be integers - not decimal numbers

In Scratch not easily able to test for text instead of numbers, as numbers could also be regarded as text



These numbers should be tested for being integer and not decimal numbers