**11DTP**

Given a plan, code into Scratch, using versions of programming

***Question:***

Write a program to print out a multiplication table. The user can enter which times table they want displayed, and what the lower and upper limits are.

For example, if the user enters 5, 1, 15 then the program will print out

5 \* 1 = 5

5 \* 2 = 10

……..

5 \* 15 = 75

**Input**

|  |  |  |
| --- | --- | --- |
| variableName | type | where |
| numberTimesTable | integer | User – sprite - keyboard |
| lowerLimit | Integer | User – sprite – keyboard |
| upperLimit | integer | User – sprite - keyboard |

**Constants**

None

**Output**

|  |  |  |
| --- | --- | --- |
| variableName | format | where |
| valueAnswer (in a loop) | Whole number | Sprite – on screen |

**Calculations**

valueAnswer 🡨 numberTimesTable \* counter (which changes from lowerLimit to upperLimit)

**Test Data**

|  |  |  |  |
| --- | --- | --- | --- |
| numberTimesTable | lowerLimit | upperLimit | valueAnswer |
| 5 | 1 | 15 | 5, 10, 15, 20….70, 75 |
| 15 | 10 | 20 | 150, 165, 180,…285, 300 |

**Processing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sprite 1 | | | | |
| *Costume* | Fantasy – gobo 1 and gobo 2 | | *Name* | gobo |
| *Thread1* | | | | |
| *Event signal* | | *Event handling* | | |
| Green flag clicked | | Set costume to gobo2  Ask user for numberTimesTable, lowerLimit, upperLimit  Set counter to lowerLimit  Start repeat loop until counter > upperLimit  Set valueAnswer to numberTimesTable \* counter  Change costume to gobo1  Display valueAnswer with suitable comment  Increase counter by 1  End script code | | |

Testing plan

Version 1

#enter the input data and test

Version 2

#Set up loop and processing and test