

Introduction to Programming using Scratch

To-Do list

1. Talk about scratch
2. **TASK:** Allow participants to explore scratch for 5 minutes
3. What is computer program?
4. Structure of a program *(Also how scratch works?)*
 - i) *Entry point*
 - ii) *Statement and instruction*
 - iii) *Program termination*
5. Hello World program (in scratch, play sound if possible) **HelloWorld.sb2**

6. Computers were made as calculators in the beginning, everything in the core of the CPU is just simple calculations
7. Operators (Adding, Subtracting, Multiplying, Dividing, Modulus, and operator precedence is followed by all programming languages with examples) *//Show simple calculations*
8. Different types of number (there are different types of number such as integer, float and such because computers store them differently) *//show calculations using integer and float*
9. Introduce Strings
10. Other data types [Booleans, lists]

11. Constants and Variables
12. Different types of numbers and string need different types of variables, values of variables can be re-assigned
13. Constant explanation *//Demonstrate variable and lists in Scratch*
14. **TASK:** Make a simple calculator, take 2 input from user and display results (about 10 minutes) **SimpleCalculator.sb2** *//show this after the time is up*

15. **Q/A session**

16. Random number generator

17. **TASK:** Make a “Guess my number game” (5 minutes) *//pave way to introduce conditions*

18. Conditions

- (a) IF condition *//show **guessmynumber0.sb2** using only if condition*
- (b) IF/ELSE condition *//show **guessmynumber1.sb2** using if and else condition*
- (c) Nested conditions *//show **guessmynumber2.sb2** using nested if/else*

19. (How to improve guessmynumber.sb2??)

Introduce Loops, how loops work? *//show **guessmynumber3.sb2***

20.TASK: Tell them to add a feature in the game such that when at 10 tries the game should be over *//implement and show **guessmynumber4.sb2***

21.Q/A session

22.Break