Year 6
Computing
Spring 1

Coding with variables

In scratch the sprite (character) is positioned on the screen using the co-ordinates. Co-ordinates are always given X, Y which means that the number of places along the horizontal line is given before the number of places along the vertical line.

Key Vocabulary	Definition
Abstraction	(noun) Abstraction is a fundamental concept in computer science that involves filtering out the characteristics that we don't need in order to concentrate on those that we do.
Algorithm	(noun) A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer:
Bug	(noun) An error in a computer program or system
Code	(noun) The program instructions (verb) To write the instructions for a program.
Co-ordinates	(noun) each of a group of numbers used to indicate the position of a point, line, or plane.
De-bug	(verb) To identify and remove the errors in the code so that the program can run.
Program	(noun) a series of coded software instructions to control the operation of a computer or other machine
Programme	(verb) To provide a computer (or other machine) with coded instructions for the automatic performance of a task.
Value	the numerical amount denoted by an algebraic term; a magnitude, quantity, or number or the meaning of a word or other linguistic unit
Variable	(noun) An element, feature, or factor that is liable to vary or change:

Variables

Variables can be added to the game to add different elements. This could include the score or a timer.

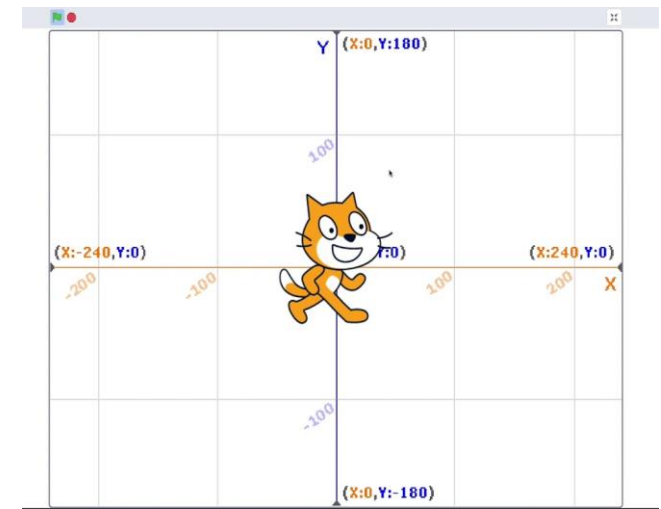It is important to name our variables so that the value can be assigned to it.

Four levels of design - Also known as 'levels of abstraction'

'Task' level — the programmer determines what the program is trying to achieve, i.e. "make an object catching game".

'Design' level — the programmer describes clearly and unambiguously what the program should do. It includes the algorithms and the artwork of the program.
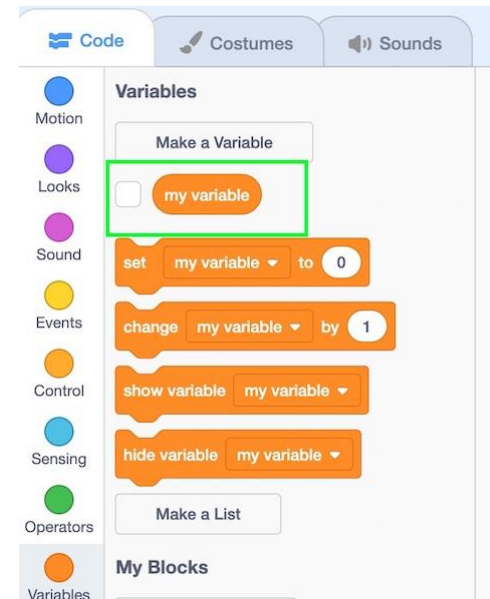
'Code' level — the programmer implements the algorithm. This is how the project achieves what it does.

'Running the code' — the programmer demonstrates what the project does.