Unit 5.1: Coding

- **Abstraction**: Abstraction is a way of de-cluttering and removing unnecessary details to get a program functioning.
- **Action**: A type of command which causes an object to alter its behaviour. Actions could be used to move an object or change a property.
- **Algorithm**: a precise, step-by-step set of instructions used to solve a problem or achieve an objective.
- **Command**: A single instruction in 2Code.
- **Concatenation**: The action of linking a mixture of strings, variable values and numbers together in a series.
- **Co-ordinates:** Numbers which determine the position of a point, shape or object in a particular space.
- **Debug\ Debugging:** Fixing code that has errors so that the code will run the way it was designed.
- **Decomposition**: A method of breaking down a task into manageable components. This makes coding easier as the components can then be coded separately and then brought back together in the program.
- **Efficient:** In coding, simplified code runs faster and uses less processing memory, it is said to be *more efficient*.
- **Event**: An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key (**when Key**) or clicking or swiping the screen (**when Clicked, when Swiped**) or when objects interact (**collision**). In 2Code, the event commands are used to create blocks of code that are run when events happen.
- **Flowchart**: A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm as a diagram.
- **Friction**: The resistance that one surface or object encounters when moving over another.
- **Function:** A block or sequence of code that you can access when you need it, so you don't have to rewrite the code repeatedly. Instead, you simply **call** the **function** each time you want it.
- **Input:** Information going into the computer. This could be the user moving or clicking the mouse, or the user entering characters on the keyboard. On tablets there are other forms such as finger swipes, touch gestures and tilting the device.
- **Nest**: When coding commands are put inside other commands. These commands only run when the outer command runs.

- **Object**: Items in a program that can be given instructions to move or change in some way (action). In 2Code Gorilla, the **object types** are button number, input, text, shape turtle, character, object, vehicle, animal.
- **Output**: Information that comes out of the computer e.g., **sound**. **prompt**, **alert** or **print to screen**.
- **Physical System:** In this context, this is any object or situation that can be analysed and modelled. For example, modelling the function of a traffic light, modelling friction of cars moving down surfaces or modelling the functions of a home's security system.
- **Predict**: Use your understanding of a situation to say what will happen in the future or will be a consequence of something.
- **Print to Screen:** A type of output. It prints text to the screen.
- **Properties**: These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.
- **Random**: Lacking a definite plan, purpose, or pattern.
- **Repeat:** This command can be used to make a block of commands run a set number of times, until a condition is met or forever.
- **Selection** A conditional decision command. When selection is used, a program will choose which bit of code to run depending on a condition. In 2Code selection is accomplished using **'if'** or **'if/else' statements.**
- **Sequence**: This is when a computer program runs commands in order.
- **Simplify:** In coding this is used to describe modifying the code to complete the same process with less lines of code.
- **Simulation**: A model that represents a real or imaginary situation. Simulations can be used to explore options and to test predictions.
- **String:** Text or a combination of text characters and numbers: A sequence of characters, which could form words, phrases or even whole sentences.
- **Tabs**: In 2Code tabs are used to organise code.
- **Timer:** In coding, use a timer command to run a block of commands after a timed delay or at regular intervals.
- **Variable**: A named area in computer memory. A variable has a **name** and a **value**. The program can change this variable value. Variables are used in programming to keep track of things that can change while a program is running. In 2Code, variables can be **strings**, **numbers** or **computer-generated** variables to control objects of a type.