Computing-Year 5- Summer Term- Programming

Prior Learning: We will build on learning from previous years, where we have explored scratch and scratch junior. In which we have looked at making objects move; creating simple inputs; making different type of input; making buttons and instructions using Scratch junior. We will be continuing to improve our Scratch knowledge and skills where in previous years we have learnt how to move objects, create lines, add different features, debug programs, create different types of loop, modify and create games.

Theme: Selection in Quizzes
Concept: Programming
Hardware: Laptops
Software: Scratch

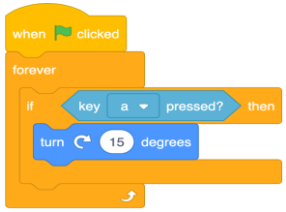
1. Exploring conditions

We will revisit previous learning on 'selection' and identify how 'conditions' are used to control the flow of actions in a program. We will be introduced to the blocks for using conditions in programs using the Scratch programming environment. Then modify the conditions in an existing program and identify the impact this has.

A condition is a statement that needs to be met for a set of actions to be carried out.

A selection makes use of conditions to decide which set of actions to follow

2. Selecting outcomes

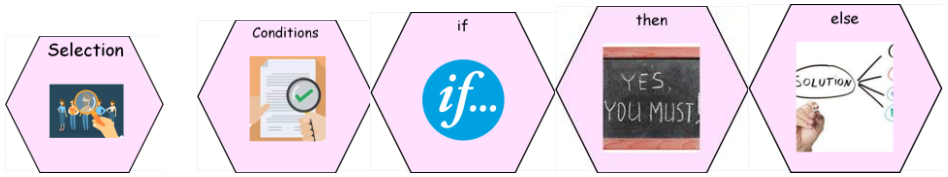


We will develop our understanding of selection by using the 'if… then… else...' structure in algorithms and programs. We will revisit the need to use repetition in selection to ensure that conditions are repeatedly checked. We will identify the two outcomes in given programs and how the condition informs which outcome will be selected. We will use this knowledge to write our own programs that use selection with two outcomes.

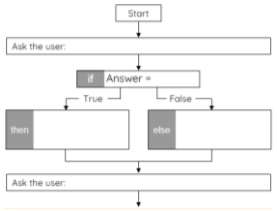
3. Asking questions

We will learn how questions can be asked in Scratch, and how the answer (supplied by the user) is used in the condition to control the outcomes. We will use an algorithm to design a program that uses selection to direct the flow of the program based on the answer provided. We will implement our algorithm as a program and test whether both outcomes can be achieved.

Words we will know!



4. Designing a quiz



We will use selection to control the outcomes in an interactive quiz. We will use an algorithm to show how we will use selection in the quiz to control the outcomes based on the answer given. We will complete our designs by using design templates to identify the questions that will be asked, and the outcomes for both correct and incorrect answers. We will identify which outcomes will be selected based on given responses.

5. Testing a quiz

We will use the Scratch programming environment to implement the first section of our algorithm as a program. We will test our program and debug our program if required. We will consider the value of sharing our program with others so that we can receive feedback. We will finish by using someone else's quiz and providing feedback on it.

6. Evaluating a quiz

We will return to our programs and identify ways they can be improved. We will focus on issues where answers similar to the conditions are given as inputs, and find ways to avoid this. We will also consider how the outcomes may change the program for other users, and identify how they can make use of 'setup' to provide all users with the same experience. We will make improvements by returning to our program. We will identify: how we met the requirements of the given task; the aspects of the program that worked well; the parts we improved; and areas that could improve further.