Year 6 Game Design Knowledge Organiser

Key Learning	Self-Assessment		
	WT	A	WA
Can use selection **if** touching another sprite **then**...do something			
Can move a sprite with the mouse			
Can use selection **– if on the edge** bounce block			
Can understand the point in direction tools			
I can use **nested loops** to make sprites move			
I can make and use a simple variable			
I can create and use a **procedure** that helps run code over and over, so I don't have to re-write it			
I can make a sprite move by using **selection** within a **nested loop** when the arrow key is pressed			
I can use the conditional If/Else block in my code			
I know that Boolean logic relies on true or false statements and can use this in my code			

Who uses skills like these?
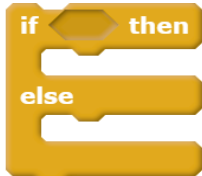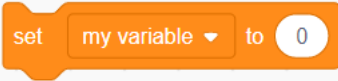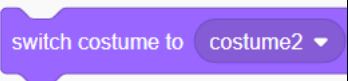
- Search optimizer
- Business analytics
- Artificial intelligence programming - e.g. how to find links that a human might miss, or advertising products we may be interested in
- Networking engineers

Magic speaking box
repeat:
    wait until button pressed
    if switch set to English then:
        play phrase in English
    else
        play phrase in French

Operators

- $<$
- $=$
- $>$
- and
- or
- not
- contains ?
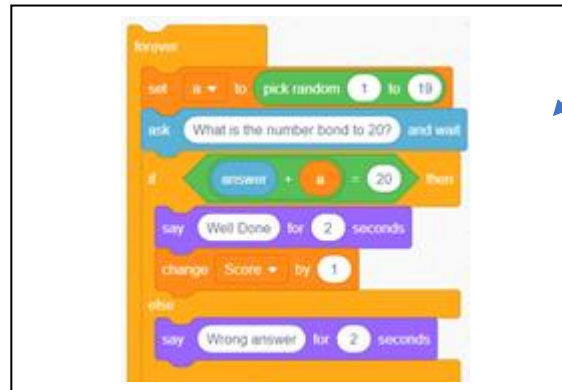
New Key words we will use in year 6 Game Design

Pseudocode (sometimes written as pseudo-code) is a form of source code that is **written for humans**, not machines, to read. It is often written to show how an algorithm works.

Conditional If/Else – An **if else statement** in programming is a conditional **statement** that runs a different set of statements depending on whether an expression is true or false

Boolean Logic - Booleans are often used in programming and in Internet search engines. Boolean expressions result in just two values – **TRUE or FALSE**.

Operators – these are Boolean blocks used in code

Key words and prior learning from year 5 Programming Making Games

Variable – A way in which computer programs can store, retrieve or change data, such as a score, the time left, or a user's name

Selection – A programming construct which one section of code or another is executed depending on whether a particular condition is met.

Abstraction – is the process of filtering out – ignoring - the characteristics of patterns that we don't need in order to concentrate on those that we do.

Sensing – such as detecting if touching, or ask

Procedure - is a piece of code that can be run over and over again, which is useful as it prevents us from having to re-write the same code multiple times.

Year 6 Game Design Knowledge Organiser

These are human command algorithms and how they look as Scratch Code blocks, highlight which once you are confident to use in Scratch

Algorithm Level/Pseudo code	Scratch blocks Code Level	Algorithm Level/Pseudo code	Scratch blocks Code Level	Algorithm Level/Pseudo code	Scratch blocks Code Level
Start together	when 🚩 clicked	Pause until	wait until ⬡	If or when	if ⬡ then
Space key touched Press space key Use space key	when space key pressed	Pause	wait 3 secs	If or when Else	if ⬡ then else
Character clicked Start when character clicked	when this sprite clicked	Always loop Loop always 'Move'	forever	Ask Question "Whats is your name?" Answer	ask ▢ and wait answer
"Hello" for 2 seconds	say Hello! for 2 seconds	Do 3 times "Hello"	repeat 3	Set 'my variable' to 0 e.g. start variable at 0	set my variable ▾ to 0
Change what the character looks like	switch costume to costume2 ▾	Loop until	repeat until ⬡	Change 'my variable' by +1 e.g. increase speed by +1	change my variable ▾ by 1