Computing - Knowledge Organiser

Year 9 – HT3 – Python Programming [Iteration]

Keywords:

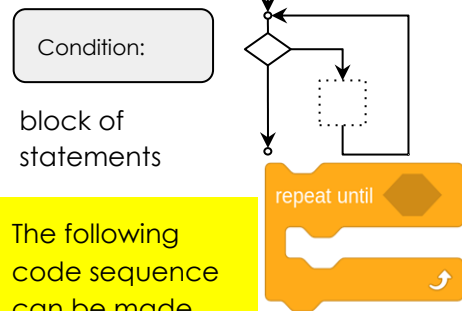| Python	A high-level general-purpose programming language
Variables	A data item that may take on more than one value during the runtime of a program
Assignment	a statement in computer programming that is used to set a value to a variable name (e.g. name = "Adam")
Constants	a value that should not be altered by the program during normal execution
Integer	A whole number
String	A sequence of characters
Float	A decimal number
Identifier	The name given to a variable
Conditions	statements that are created which evaluates actions in the program and returns if it's true or false
Booleans	a data type with two possible values: true or false
Criteria	A requirement in a condition that must be met

while statement (condition-controlled): when your program needs to repeat actions while a condition is satisfied.

Count-controlled loop in python repeatedly execute the code a fixed number of times:

while

Condition:

block of statements

repeat until

```
total = 0

for count in range(4):

    number = int(input("Type in a number: "))

    total = total + number

print("The total is: ")

print(total)
```

In for loops, range specifies the number of times the program will iterate. The code above will repeat the statements inside the for loop 4 times (the indented statements).

The following code sequence can be made efficient by using iteration:

```
count = 3

print(count)

count = count-1

print(count)

count = count-1
```

```
count = 3

while count >= 1:

    print(count)

    count = count-1
```

Reference: Count-controlled loops - Count-controlled loops - using FOR - Iteration in programming - KS3 Computer Science Revision - BBC Bitesize - https://www.bbc.co.uk/bitesize/guides/z3khpv4/revision/4

Reference: https://teachcomputing.org/curriculum/key-stage-3/introduction-to-python-programming