Computing - Knowledge Organiser



Year 9 – HT4 – Python Project

Keywords:	
Python	A high-level general-purpose programming language
Conditions	Statements that are created which evaluates actions in the program and returns if it's true or false
Criteria	A requirement in a condition that must be met
Iterative Development	A way of breaking down the software development of a large application into smaller chunks
Bug	An error in the coding of a program
Debug	The process of finding and repairing a bug in a program
Test	The process of assessing the functionality of a program to ensure there are no errors
Normal Data	Testing a program with acceptable data
Boundary Data	Testing a program with data that is on the very boundary of acceptable data
Erroneous Data	Testing a program with data that it cannot accept

Iterative Design Model:



Source: https://www.bbc.co.uk/bitesize/guides/zijkw6f/revision/4

if....else statement:

```
a = 250
b = 80
if a > b:
    print("a is greater than b")
else:
    print("a is not greater than b")
```

if...elif...else statement:

```
a = 250
b = 80
if a > b:
    print("a is greater than b")
elif a == b:
    print("a and b are both equal")
else:
    print("b is greater than a")
```

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Python uses the following logical conditions which can be used in if statements:

Equals: == Not Equals: != Less than: < Greater than: > Less than or equal to: <= Greater than or equal to: >=

For Loops and While Loops:



while Count-controlled loop in python Condition: repeatedly execute the code a fixed number of times: block of statements total = 0The following for count in range(4): code sequence number = int(input("Type in a number: ")) can be made efficient by using total = total + number iteration: count = 3print("The total is: ") count = 3while count >= 1: print(total) print(count) print(count) count = count-1count = count-1In for loops, range specifies the number of print(count) times the program will iterate. The code above will repeat the statements inside count = count-1the for loop 4 times (the indented statements).

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

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