**Module1 Iterations**

**Iterative Programs (Exhaustive enumeration)**

Branching programs allow us to test a conditional, if it returns True, we run a block of code, if it returns False, we run a block of code. It goes through each block only once. When we want to communicate to the computer that we want to do something repeatedly, we will need a loop

While loops: while loops on the other hand allow us to write programs that executes iteratively (repeatedly) when we do not know ahead of time when it will stop or an indeterminate number of things we want to do.

**Structure of a while loop**

Set a variable outside.

while <test the variable>

set of expressions to evaluate.

check the condition again until the test evaluates to False.

when the condition evaluates to False, the program stops

**For loop**

For loops allow us to write programs that capture iterations (a repetition of code) based on a specific number or a test that we know number of iterations although we can end it early with a break statement. We can also specify where we want to start when using the range (start: stop: step) function.

For i in range (10):

print(i)

break

pass

continue