1. Demonstrate the use of loop manipulation statements.

   (break, pass, continue, for with else and while with else)

   Ans:- Loop Manipulation Statements

   1. Break statement:-The **break** statement is used to exit a loop prematurely. It terminates the loop's execution and transfers control to the next statement after the loop.
      Here's an example:-
      numbers = [1, 2, 3, 4, 5]
      for num in numbers:
        if num == 3:
          break
        print(num)
      Output:- 1 2

   2. Pass statement:-The **pass** statement is used as a placeholder when you want to have an empty block of code. It is a null operation and does nothing.
      Here's an example:-
      numbers = [1, 2, 3, 4, 5]
      for num in numbers:
        if num == 3:
          pass
        else:
          print(num)
      Output:-1 2 4 5

   3. Continue statement:-The **continue** statement is used to skip the rest of the current iteration and move to the next iteration of the loop.
      Here's an example:-
      numbers = [1, 2, 3, 4, 5]
      for num in numbers:
        if num == 3:
          continue
        else:
          print(num)
      Output:-1 2 4 5

   4. for loop with else statement:-The **else** block in a **for** loop is executed when the loop has exhausted all the items in the iterable. It is executed unless a **break** statement is encountered.
      Here's an example:-
      numbers = 1 2 3 4 5
      for num in numbers:

```
    print(num)
else:
    print("Loop completed successfully!")
```
Output:-1 2 4 5

5. while loop with else statement:-The **else** block in a **while** loop is executed when the loop condition becomes False. It is executed unless a **break** statement is encountered.
   Here's an example:-

```
count = 0

while count < 5:
    print(count)
    count += 1
else:
    print("Loop completed successfully!")
```
Output:-0 1 2 3 4
Loop completed successfully!