A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer program

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A screen shot of a computer

AI-generated content may be incorrect.

**A person standing in front of a computer screen

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**Basic Structure**

The general structure of a nested list comprehension looks like this:

python

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[expression for inner\_loop for outer\_loop]

* The **outer loop** runs first.
* For each iteration of the outer loop, the **inner loop** runs completely.
* The expression is evaluated for each combination of the inner and outer loop variables.

**Example 1: Creating a Matrix**

Let’s revisit the example you provided:

python

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matrix = [[col for col in range(0,5)] for row in range(0,5)]

**Breakdown:**

1. **Outer Loop**:

python

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for row in range(0,5)

* + This loop runs 5 times (row = 0 to row = 4).
  + For each row, the inner loop is executed.

1. **Inner Loop**:

python

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[col for col in range(0,5)]

* + This loop runs 5 times (col = 0 to col = 4).
  + It generates a list [0, 1, 2, 3, 4] for each row.

1. **Result**:
   * The outer loop creates 5 rows.
   * Each row is filled with the list [0, 1, 2, 3, 4] generated by the inner loop.