Test Sheet 4: While Loops

Use the test sheet to:

- Check your own progress
- Practice giving and receiving feedback by working with our course members.

1. The following program contains four errors – what are they? Classify each error:
   a. Syntax: an error message the occur before the program runs
   b. Runtime: there will be an error while the program is running
   c. Logic: the program will run but the answer is wrong.

Use the Python interpreter to check.

```python
1: rows = int(input("how many rows? "))
2: if rows > 0:
3:     count = 0
4:     while count <= rows
5:         print(str(count)*counter)
6: else:
7:     print("No rows")
```

<table>
<thead>
<tr>
<th>Error</th>
<th>Line &amp; Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Copy and complete the following dry run table for the program above – either correct it or use the dry run to find the errors. Add more rows as needed. Start by assuming the user inputs ‘2’ but try other values as well.

<table>
<thead>
<tr>
<th>rows</th>
<th>count</th>
<th>What is printed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Write a program to input a string (a name for example) and double all the characters. Here are an example:

```python
>>> Enter a name: William
WWiillllIIiiaammm
```

Another variation just doubles the vowels:

```python
>>> Enter a name: William
Wiilliaam
```