Suppose you know how to draw

How difficult is it to draw

Pattern for doing something \( n \) times

\[
\text{n= _____} \\
\text{for k= 1:n} \\
\% code to do \\
\% that something \\
\text{end}
\]

Example: Times Table

Write a script to print a times table for a specified range.

Row headings

<table>
<thead>
<tr>
<th></th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>6</td>
<td>18</td>
<td>24</td>
<td>30</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>7</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>42</td>
<td>49</td>
</tr>
</tbody>
</table>

Column headings

disp('Show the times table for specified range')
lo= input('What is the lower bound? ')
h= input('What is the upper bound? ')

Developing the algorithm for the times table

- Look for patterns
  - Each entry is row\( \times \) col\( \times \)
  - Row\( \times \)col\( \times \) increase regularly
  - \( \Rightarrow \) Loop!!!
- How to loop?
  - For each row\( \times \), get the products with all the cols.
  - \( \Rightarrow \) For each row\( \times \), need a loop to work through all the cols
  - \( \Rightarrow \) Nested loops!
- Details: what will be the print format? Don’t forget to start new lines. Also need initial input to specify the range.
Drawing ASCII diagrams

******
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Write a function `asciiRectangle` to draw this diagram on the Command Window. The number of rows and the number of asterisks on each row are the parameters.

No user-defined function
(so that you can practice nested loops)

Drawing ASCII diagrams

Example for n=6

* 
** 
*** 
**** 
***** 
******

Write a function `asciiTriangle` to draw this diagram on the Command Window. The number of asterisks on each side, `n`, is the parameter.

No user-defined function
(so that you can practice nested loops)