

Name: _____ Section: 1 2 3 4

1 = Stouder, 2nd-3rd periods. 2 = Stouder, 4th-5th periods. 3 = Mutchler, 7th-8th periods. 4 = Rupakheti, 9th-10th periods.

Use this quiz to help make sure you understand the videos/reading. **Answer all questions.** Make additional notes as desired. **Not sure of an answer?** Ask your instructor to explain in class and revise as needed then. **Please print two-sided if practical.**

Throughout, where you are asked to “circle your choice”, you can circle or underline it (whichever you prefer).

Textbook Reading: Section 4.7— Nested Loops (pages 184 - 189)

For the next several problems (which are taken from your textbook), consider the code snippet shown below and to the right. It is taken from page 186 of your textbook (but with the code modified to use a **format** statement instead of the older notation that the textbook uses, as we have done in previous examples):

```
NMAX = 4
XMAX = 10
for x in range(1, XMAX + 1):
    for n in range(1, NMAX + 1):
        print("{:10.0f}".format(x ** n), end="")
    print()
```

- Why is the newline suppressed (using `end=""`) in the inner loop but not in the outer loop?

- How would you change the program to display all powers from x^0 to x^5 ?

- If you make the change in the previous problem, how many values are displayed?

- What does the code snippet to the right display?

```
for j in range(3):
    for k in range(1, 4):
        print(j + k, end="")
    print()
```

- Write nested loops that make the following pattern of exclamation marks. (There are 8 exclamation marks on each row, and each row starts on the left edge of the line.)

```
!!!!!!!
!!!!!!!
!!!!!!!
```

Write your code here:

6. Write nested loops that make the following pattern of exclamation marks.

```
!!!!!  
!!!!  
!!!
```

Write your code here:

7. Write nested loops that make the following pattern of alternating brackets.

```
[][][][]  
[][][][  
[][][]  
[][][  
[][]  
[]]
```

Write your code here:

8. Write nested loops that make the following pattern of alternating brackets, WITHOUT using any IF statements. (Hint: this uses a simple pattern that is not explicit in Table 3 on page 187.)

```
[][][][]  
[][][][]  
[][][][]  
[][][][]
```

Write your code here: