

CSE 1321L: Programming and Problem Solving I Lab

Lab 6

Flow Control (Part 3)

What students will learn:

- Using WHILE loops.
- Using FOR loops.
- Using NESTED FOR loops.

Content

- Overview
- Lab6A: Multiplication and Exponentiation Calculator
- Lab6B: Guess the Number
- Lab6C: Pyramid Pattern Printing

WHILE

Boolean True False Boolean comparison
logical expressions

FOR

strings ranges

when

Use a **FOR** loop when you want to repeat something a **certain number of times**. For example:

for x in range(3):
 for y in range(5):
 ...
 for y in range(3):
 ...

Lab6A.py
Lab6B.py
Lab6C.py

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$$4^{(3)} = 64$$

Multiplication and Exponent Calculator

Choose option 1 for Multiplication

Choose option 2 for Exponentiation

Choose option 3 to Exit

10

Invalid Choice

Multiplication and Exponent Calculator

Choose option 1 for Multiplication

Choose option 2 for Exponentiation

Choose option 3 to Exit

3

Closing the Calculator...

Lab6B: Guess the Number

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1. First you need to import the **random** library (this import statement should be at the top of your code):

5(es)1ee08(es)-11he)8Td(a)-7.8e)f(5(es4-11he)8d()Tj7T2 1 Tf04(2).7.()10-D10T912D01)10-D911h1 00CDBDC 7(00CDBDC 7)7.R(c)

Enter any number between 1 and 100: 25
Too high!
Enter any number between 1 and 100: 12
Too high!
Enter any number between 1 and 100: 6
Too low!
Enter any number between 1 and 100: 9
Too low!
Enter any number between 1 and 100: 10
Correct! I was thinking of 10

Sample Output #2:

Lab6C: Pyramid Pattern Printing

Requirements:

The pyramid pattern printing must be implemented using a **nested FOR loop**.

Assume that the user will only enter any positive number and 0.

After successfully printing the pyramid pattern, the program should re-prompt the user to enter another value or 0 to terminate.

The row input will determine the number of rows for the pyramid and will also determine the content for each row.

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Submission Instructions:

Programs must follow the output format provided. This includes each blank line, colons (:), and other symbols.