**Presentation Notes:**

Slide 1: IF Statement Control

1. Summarize the purpose of an ***if*** statement in programming.

1. Explain what happens in the sample program under the following conditions.
   1. classSize is greater than 30
   2. classSize is less than 30
   3. classSize is exactly equal to 30
2. Draw a sketch of the flowchart diagram   
   for an ***if*** statement.

Slide 2: Indentation & Code Blocks

1. Summarize the purpose and use of a code block in programming with respect to:
   1. Grouping conditional code statements
   2. Use of indentation

Slide 3: Conditional Expression

1. Summarize the Syntax (format and location) of a conditional expression.
2. Modify the sample program to check for a class size greater than or equal to 28.   
   Write your new conditional expression below.

Slide 4: Is Equal To (==)

1. Summarize the difference between ***==*** (is equal to) and ***=*** (assignment operator).
2. Explain what the ***!=*** comparison means.

Slide 5: ELSE Statement Control

1. Summarize the purpose of an ***else*** statement in programming.

1. Explain what happens in the sample program under the following conditions.
   1. classSize is greater than 30
   2. classSize is less than 30
   3. classSize is exactly equal to 30
2. Draw a sketch of the flowchart diagram   
   for an ***else*** statement.

Slide 6: elif Statement Control

1. Summarize the purpose of an ***elif*** statement in programming.

1. Explain what happens in the sample program under the following conditions.
   1. classSize is greater than 30
   2. classSize is less than 30
   3. classSize is greater than 14
   4. classSize is less than 14
2. Draw a sketch of the flowchart diagram   
   for an ***elif*** statement.

Slide 7: Program Comments

1. Summarize the purpose and syntax of a ***line*** comment.
2. Summarize the purpose and syntax of a ***block*** comment..

Slide 8: Conditional Loops

1. Summarize the purpose of an ***loop*** statement in programming.

1. Explain why you should not use “cut-and-paste” to repeat code blocks.
2. Draw a sketch of the flowchart diagram   
   for an ***loop*** statement.

Slide 9: While Loops

1. Explain how changes in the variable startCount affect the operation of the while loop.

1. Explain what happens to the while loop under the following conditions.
   1. When the condition statement is true
   2. When the condition statement is false

Slide 10: Infinite Loops

1. Explain what an infinite loop is and why it is a bad thing in a computer program.

1. Explain the difference between a Logic Error and a Syntax Error.

1. Explain the difference between a Logic Error and a Run-Time Error.

**Student Questions:**

Template code

import random

print(random.randint(0,9))

Basic level program to guess a random number

Check if guess equals target number

Print “your guess was correct!” if the check is true

Print “try again” is the check is false

Medium level program. Add the following to your basic level program

Print “guess higher” if the guess was less than the target number

Print “guess lower” if the guess was greater than the target number

Enhanced level program. Add the following to your medium level program

Add a loop to keep playing the game

Exit the loop when the target number is guessed correctly