**Question 1:**

Implement the following flowchart into a module called “checkGuess” that accepts 2 integer parameters guess and secret.

**Question 2:**

In the same file as your checkGuess module create a main routine that implements the following pseudocode.

**Note:**In order to generate a random number you can add “import random” as the first line in your Python file and then use the code random.randint( start, finish ) where start and finish are integers for the inclusive bounds of your range.  For example to get a number between 1 and 20 inclusive you would write **random.randint(1,20)**.  To calculate the length of a string you can use the len() function.  **len(“hello”)** will return 5.

GET username FROM keyboard  
SET score = 0  
CALCULATE a secret number using the formula length of username \* a random integer [1,5]  
SET guesses = 0  
SHOW “Hello ” username “ welcome to the guessing game.”  
  
LOOP  
                SET remaining = 3 - guesses  
                SHOW “You have “ remaining “ guesses left”  
                SHOW “What is your guess?”  
                GET guess FROM keyboard  
                SET guesses = guesses + 1  
                CALL checkGuess WITH secret number and guess  
                SET result TO return value of checkGuess call  
                IF result IS 0 THEN  
                                IF guesses IS 1 THEN  
                                                SHOW “Amazing! On your first guess!  
                                                SET score = score + 10  
                                ELSE  
                                                IF guesses IS 2  
                                                                SHOW “Excellent!  On your second guess!”  
                                                                SET score = score + 5  
                                                ELSE  
                                                                SHOW “Lucky! On your last guess!”  
                                                                SET score = score + 1  
                                                ENDIF  
                                ENDIF  
                                EXIT LOOP  
                ELSE  
                                IF result IS 1 THEN  
                                                SHOW “Your guess, “ guess “, was too low!  
                                ELSE  
                                                SHOW “Your guess, “ guess “, was too high!”  
                                ENDIF  
                ENDIF  
                IF guesses IS 3 THEN  
                               EXIT LOOP  
                ENDIF  
END LOOP  
  
SHOW “Thank you for playing, “ username “, your score was “ score “points.”

A sample program that prints a random number would be a file with these lines in it:

import random  
print( random.randint(1,10) )

**Rubric Assignment 3**

| Assignment 3 | | |
| --- | --- | --- |
| **Criteria** | **Ratings** | **Pts** |
| This criterion is linked to a Learning Outcome1. Function declaration  (name/params/syntax) | |  |  | | --- | --- | | **2 pts**  **Full Marks** | **0 pts**  **No Marks** | | 2 pts |
| This criterion is linked to a Learning Outcome1. Assumptions  2 of them | |  |  | | --- | --- | | **2 pts**  **Full Marks** | **0 pts**  **No Marks** | | 2 pts |
| This criterion is linked to a Learning Outcome1.Logic for result  3 conditions | |  |  |  |  | | --- | --- | --- | --- | | **9 pts**  **Full Marks** | **6 pts**  **2 only** | **3 pts**  **1 only** | **0 pts**  **No Marks** | | 9 pts |
| This criterion is linked to a Learning Outcome1.Return | |  |  | | --- | --- | | **1 pts**  **Full Marks** | **0 pts**  **No Marks** | | 1 pts |
| This criterion is linked to a Learning Outcome2.Random  import + equation | |  |  | | --- | --- | | **1 pts**  **Full Marks** | **0 pts**  **No Marks** | | 1 pts |
| This criterion is linked to a Learning Outcome2.Assumptions  Assume user enters an integer for guess | |  |  | | --- | --- | | **1 pts**  **Full Marks** | **0 pts**  **No Marks** | | 1 pts |
| This criterion is linked to a Learning Outcome2.Input  +correct prompt | |  |  | | --- | --- | | **2 pts**  **Full Marks** | **0 pts**  **No Marks** | | 2 pts |
| This criterion is linked to a Learning Outcome2.Initializations  score = 0 guesses = 0 | |  |  | | --- | --- | | **2 pts**  **Full Marks** | **0 pts**  **No Marks** | | 2 pts |
| This criterion is linked to a Learning Outcome2.User greeting | |  |  | | --- | --- | | **2 pts**  **Full Marks** | **0 pts**  **No Marks** | | 2 pts |
| This criterion is linked to a Learning Outcome2.Loop control | |  |  | | --- | --- | | **3 pts**  **Full Marks** | **0 pts**  **No Marks** | | 3 pts |
| This criterion is linked to a Learning Outcome2. Calculate + display remaining | |  |  | | --- | --- | | **3 pts**  **Full Marks** | **0 pts**  **No Marks** | | 3 pts |
| This criterion is linked to a Learning Outcome2.Prompt for guess & update guesses count | |  |  | | --- | --- | | **3 pts**  **Full Marks** | **0 pts**  **No Marks** | | 3 pts |
| This criterion is linked to a Learning Outcome2.Function call | |  |  | | --- | --- | | **2 pts**  **Full Marks** | **0 pts**  **No Marks** | | 2 pts |
| This criterion is linked to a Learning Outcome2.6 conditions | |  |  |  |  | | --- | --- | --- | --- | | **6 pts**  **Full Marks** | **4 pts**  **Missing 1 or 2** | **2 pts**  **Missing 3** | **0 pts**  **No Marks** | | 6 pts |
| This criterion is linked to a Learning Outcome2.Score update | |  |  | | --- | --- | | **3 pts**  **Full Marks** | **0 pts**  **No Marks** | | 3 pts |
| This criterion is linked to a Learning Outcome2.Correct guess output messages | |  |  | | --- | --- | | **3 pts**  **Full Marks** | **0 pts**  **No Marks** | | 3 pts |
| This criterion is linked to a Learning Outcome2.Wrong guesses output messages | |  |  | | --- | --- | | **4 pts**  **Full Marks** | **0 pts**  **No Marks** | | 4 pts |
| This criterion is linked to a Learning Outcome2.End of game output message | |  |  | | --- | --- | | **1 pts**  **Full Marks** | **0 pts**  **No Marks** | | 1 pts |
| Total Points: 50 | | |