Name _____

Part 1: "From there to here, from here to there, lines of code are everywhere!" ~ Programmer Seuss

```
    1    def function_1(x):
    2          x = x + 5
(5) 3          return x
    4
    5    def function_2(y):
    6          z = function_1(y)
(10) 7          y = y * z
    8          return y
    9
    10   def function_3(x):
(2) 11         return x
    12         x = x + 512
    13
(1) 14   function_3(2)
    15   function_1(10)
    16   function_2(17)
```

a) Is the x on line 11 the same as the x on line 2? Why or why not?

   Yes   No

b) Will line 12 ever get run? Why or why not?

   Yes   No

c) On the left of the line numbers, put numbers to indicate the order the lines will be run. Ignore def statements. We have started it for you. Some lines may be run a second time, and some lines may not be run at all. There will be 11 lines total that are run.

Part 2: Guess the Number!

```
1   import random
2
3   print("Let's play Guess the Number")
4   print("You have 20 guesses")
5   print("The number will be 0-100.  Let's get started")
6   number = random.randint(0, 100)
7   tries = [____]
8   while (tries < 20):
9       tries = tries + 1
10      guess = int([_____]("Type your guess: "))
11      if ([_____]):
12          print("Too low, try again")
13      [_____] (guess > number):
14          [_____]("Too high, try again")
15      [_____] :
16          print("You got it in ", tries, " tries.  Congratulations!")
17          break
18  print("Game Over")
```

In this problem, we introduce the while statement. A "while loop" will first check whether what is in the parenthesis is true or not. If it is true, the while loop will evaluate everything in its body (the code below the while loop that is indented). When it reaches the end of the body, the program will go back to the top of the while loop, check if the statement is still true, and continue as expected. If at the beginning of any while loop the statement is not true, the program will skip the whole body and continue.

a) What is the difference between print and input?

b) What is the difference between elif and else?

c) In the above program, there are a lot of blanks. Fill them in to create the desired Guess the Number program.