Python Homework 10

In the following multiple choice questions, please circle the correct output of Python code.

1. num1=75
   num2=100
   for i in range(num1,0,-1):
      if (num1 % i == 0) and (num2 % i == 0):
         print(i)
         break
   (a) 0 (b) 25 (c) 50 (d) 75 (e) 100

2. num=75
   for i in range(num, 0, -1):
      if (num % i == 0):
         print(i)
   (a) 1 3 5 15 25 75 (b) 25 15 5 3 1 (c) 75 25 15 5 3 1
   (d) 1 3 5 15 25 (e) 3 5 15 25 75

3. nums1=[1,2,3,4,5]
   nums2=[]
   for i in range(0,len(nums1)):
      nums2.insert(0,nums1[i])
   print(nums2)
   (a) [1,1,1,1,1] (b) [1,2,3,4,5] (c) [5,5,5,5,5] (d) [1]
   (e) [5,4,3,2,1]

4. nums=[]
   for i in range(0,4):
      for j in range(i,3):
         nums.append(i)
   print(nums)
   (a) [0,0,0,1,1,2] (b) [0,0,0,0,1,1,1,2,2,3] (c) [0,1,1,2,2,2]
   (d) [3,2,2,1,1,1] (e) [2,2,2,1,1,0]

5. nums=[1,2,3,4,5,6,7,8,9]
   _____:
      print(nums[i])
   Output of the code is
   9 7 5 3
   What is the missing statement?

(a) for i in range(0,len(nums),2):
(b) for i in range(len(nums)-1,1,-3):
(c) for i in range(len(nums),0,-2):
(d) for i in range(len(nums)-1,0,-2):
(e) for i in range(len(nums)-2,0,-2):

Coding question 1: Make a function get_longest_str(list_str). Here list_str is a list of strings, and the function is to find out longest string in the list. If there are several strings with same length, return first one. You can call function len(str) to get length of any string.

Test function with get_longest_str([“123”, “abcd”, “ABC”, “1a2b3c”]) and return value should be “1a2b3c”.

Test function with get_longest_str([“123”, “abcd”, “ABCD”, “1a2b”]) and return value should be “abcd”.

Coding question 2: Make a function merge_str(list_str). Here list_str is a list of strings, and the function is to merge all strings in the list. To merge two strings into one string, you can just str1 + str2. If needed, you can start with empty string “”.

Test function with merge_str([“123”, “abcd”, “ABC”, “1a2b3c”]) and return value should be “123abcdABC1a2b3c”.

Test function with get_longest_str([“123”, “abcd”, “ABCD”, “1a2b”]) and return value should be “123abcdABCD1a2b”.

Coding question 3: Make a function str_has_num(str). Here str is a string, and the function is to check if there is any number in the string. To get individual character from a string, you can just use str[i]. For example, if str=”1234”, str[0] is ‘1’, and str1[2] is ‘3’. To check any individual character is a number or not, you can call function ord(char) to get ASCII code of any character. If the value is >=48 (ASCII code for ‘0’) and <= 57 (ASCII code for ‘9’), the character is a number.

Test function with str_has_num(“abcd”) and return value should be False.

Test function with str_has_num(“1234”) and return value should be True.

Test function with str_has_num(“1a2b”) and return value should be True.