**ISAT 252—Analytical Methods IV—Programming and Problem Solving**

**Worksheet #7: Loops, Files and Exceptions**

1. Write a set of nested loops that display 10 rows of # characters. There should be15 # characters in each row.

\_\_author\_\_ = 'kadar'  
char = '#'  
**for** i **in** range (1,11):  
 print()  
 **for** n **in** range (1,16):  
 print (char, end=' ')

1. Write code that opens an output file with the filename number\_list.txt, but does not erase the file's contents if it already exists.

file = open(‘number\_list.txt’, ‘a’)

1. Write code that does the following: opens an output file with the filename number\_list.txt, uses a loop to write the numbers 1 through 100 to the file, and then closes the file

\_\_author\_\_ = 'kadar'  
# open the file to write  
file = open('numbers\_list.txt', 'w')  
  
# use a loop to iterate 100 times  
**for** i **in** range(1, 101):  
 # convert the value to a string to be able to write and append a  
 # newline  
 output = str(i) + '\n'  
  
 # write to the open file  
 file.write(output)  
  
# close the file  
file.close()

4. What will the following code display?

**try**:  
 x = float('abc123')  
 print('The conversion is complete.')  
**except** IOError:  
 print('This code caused an IOError.')  
**except** ValueError:  
 print('This code caused a ValueError.')  
print('The end.')

The code displays “This code caused a ValueError. The end”