Problem 1:

```
import random


def gen_sequence(length):
    seq = ""

    for i in range(length):
        seq += str(random.randint(0, 9))

    return seq

def gen_sequence_list(length, count):
    list = []

    for i in range(count):
        list.append(gen_sequence(length))

    return list


random.seed()

seq_length = int(raw_input("How long would you like your sequences to be? "))
seq_count = int(raw_input("How many sequences would you like? "))
print

list = gen_sequence_list(seq_length, seq_count)

for i in range(len(list)):
    print list[i]
```

```
How long would you like your sequences to be? 6
How many sequences would you like? 7

431076
317642
018612
832917
208463
342585
575757
```

Problem 2:

```
def seqzip(seq1, seq2):
    master_list = []

    min_length = len(min(seq1, seq2))

    for i in range(min_length):
        master_list.append([seq1[i], seq2[i]])

    return master_list


list = [1, 2, 3, 4, "Hello World", ["one", 1], ("tuple", 3)]
tup = ('a', 'b', 'c', 'd', "Hey World", ["two", 2], ("Tuple", 4), "N/A")

print "List: " + str(list)
print "Tuple: " + str(tup)

print "seqzip(List, Tuple) = " + str(seqzip(list, tup))
```

```
List: [1, 2, 3, 4, 'Hello World', ['one', 1], ('tuple', 3)]
Tuple: ('a', 'b', 'c', 'd', 'Hey World', ['two', 2], ('Tuple', 4), 'N/A')
seqzip(List, Tuple) = [[1, 'a'], [2, 'b'], [3, 'c'], [4, 'd'],
       ['Hello World', 'Hey World'], [['one', 1], ['two', 2]],
       [('tuple', 3), ('Tuple', 4)]]
```

Problem 3:

Problem 1:

```
import random


def gen_sequence(length):
    seq = ""

    for i in range(length):
        seq += str(random.randint(0, 9))

    return seq


def gen_sequence_list(length, count):
    list = []

    for i in range(count):
        list.append(gen_sequence(length))

    return list


random.seed()

# Checks the function's behavior when given a length of 0
print "gen_sequence_list(0, 2)"
print gen_sequence_list(0, 2)

# Checks the function's behavior when given a count of 0
print "gen_sequence_list(2, 0)"
print gen_sequence_list(2, 0)

# Checks the function's behavior when given a length and a count of 0
print "gen_sequence_list(0, 0)"
print gen_sequence_list(0, 0)

# Checks the function's handling of larger numbers
print "gen_sequence_list(15, 3)"
print gen_sequence_list(15, 3)

# Checks the functions handling of negative numbers
print "gen_sequence_list(-1, 5)"
print gen_sequence_list(-1, 5)

print "gen_sequence_list(5, -1)"
print gen_sequence_list(5, -1)

# Waits before running code that will crash the program
raw_input("Type anything to continue. ")

# Checks the function's handling of floats (crashes)
print "gen_sequence_list(5.0, 1.0)"
print gen_sequence_list(5.0, 1.0)
```

```
# Checks the function's handling of strings (crashes)
print "gen_sequence_list(1, '5')"
print gen_sequence_list(1, '5')
```

```
gen_sequence_list(0, 2)
['', '']
gen_sequence_list(2, 0)
[]
gen_sequence_list(0, 0)
[]
gen_sequence_list(15, 3)
['853908336192008', '816135274856394', '120427569230999']
gen_sequence_list(-1, 5)
['', '', '', '', '']
gen_sequence_list(5, -1)
[]
Type anything to continue. t
Traceback (most recent call last):
gen_sequence_list(5.0, 1.0)
  File "C:/Users/SWK/Documents/.2A College Work Freshman/COS 125/Lab 3/lab3-3.py",
line 44, in <module>
    print gen_sequence_list(5.0, 1.0)
  File "C:/Users/SWK/Documents/.2A College Work Freshman/COS 125/Lab 3/lab3-3.py",
line 15, in gen_sequence_list
    for i in range(count):
TypeError: range() integer end argument expected, got float.

Process finished with exit code 1
```

Problem 2:

```
def seqzip(seq1, seq2):
    master_list = []

    min_length = len(min(seq1, seq2))

    for i in range(min_length):
        master_list.append([seq1[i], seq2[i]])

    return master_list


# Tests inputs of different lengths and types
print "seqzip([1, 2, 3], 'abcd'"
print seqzip([1, 2, 3], 'abcd')

# Tests inputs of different lengths  and types when one list is empty
print "seqzip([], (1, 2))"
print seqzip([], (1, 2))

raw_input("Type anything to continue. ")

# Tests inputs of non-list types (crashes)
print "seqzip(1, [])"
print seqzip(1, [])
```

```
seqzip([1, 2, 3], 'abcd'
[[1, 'a'], [2, 'b'], [3, 'c']]
seqzip([], (1, 2))
[]
Type anything to continue. t
seqzip(1, [])
Traceback (most recent call last):
  File "C:/Users/SWK/Documents/.2A College Work Freshman/COS 125/Lab 3/lab-3-
3.2.py", line 24, in <module>
    print seqzip(1, [])
  File "C:/Users/SWK/Documents/.2A College Work Freshman/COS 125/Lab 3/lab-3-
3.2.py", line 4, in seqzip
    min_length = len(min(seq1, seq2))
TypeError: object of type 'int' has no len()

Process finished with exit code 1
```