Assignment – Day 8

1. Write a program to solve a classic ancient Chinese puzzle: We count 35 heads and 94 legs among the chickens and rabbits in a farm. How many rabbits and how many chickens do we have?
Hint: Use for loop to iterate all possible solutions.   ***[Marks: 3]***

2. Find the total factors for a given integer N.
Ex: 24 has 1, 2, 3, 4, 6, 8, 12, 24 total 8 factors. So, if the input is 24 output should be 8   ***[Marks: 3]***

3. With a given integral number n, write a program to generate a dictionary that contains (i, i*i) such that is an integral number between 1 and n (both included) and then the program should print the dictionary.

Suppose the following input is supplied to the program: 8
Then, the output should be: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}
[Mark: 1]

4. Run below code that will generate a matrix as an input and print all the even numbers in it
import random
mat = [[random.randint(1,10) for i in range(4)] for row in range(4)]
print(mat)
[Marks: 2]

5. Assume a fair dice roll using a similar random integer generation code above roll for 500 times and print the number of times 1 to 6 has appeared
[Marks: 4]