Report of RSA Encryption and Decryption

First of all, I defined a dictionary “letters\_dict” that assigns a value to all letters. After that, I defined the “encrypt\_word” function that takes “word” as an argument and it loops in “word” and encrypts that and adds it’s letters to “encrypted\_letters\_list” and finally it returns an encrypted number.

For decryption, I defined the “decrypt\_word” function that takes “encrypted\_numbers\_list” as an argument and loops in that and returns an encrypted word. Finally these functions has been called with their arguments.

Report of Spanning Trees

First of all, I took matrix dimension as “d” because that’s a square matrix. After that, user should input matrix arrays row by row and number by number. After matrix has been made, it should be validated, and if it isn’t connected or it isn’t simple graph, program prints something and exits from code. Else, SimpleGraph class has been defined to apply DFS and BFS algorithms on the graph.

After that, a while loop has been defined to add directed edges to the graph and finally prints their results.

After printing BFS and DFS results, a variable has been made “np\_matrix” that is a numpy matrix and it has been used for drawing the simple graph by using “networkx” and “matplotlib” libraries.

For drawing digraph, a variable with name “directed\_graph” has been used and vertices connections has been added to this variable for drawing digraph and finally digraph has been drew.