10. Play fair cipher

Program:

import math

def calculate\_possible\_keys():

possible\_keys = math.factorial(25)

return possible\_keys

def calculate\_effectively\_unique\_keys():

effectively\_unique\_keys = calculate\_possible\_keys() / (math.factorial(2) \*\* 2)

return effectively\_unique\_keys

possible\_keys = calculate\_possible\_keys()

effectively\_unique\_keys = calculate\_effectively\_unique\_keys()

print("Number of possible keys without considering duplicates:", possible\_keys)

print("Number of effectively unique keys accounting for duplicates:", effectively\_unique\_keys)

Output:

