EXPERIMENT – 04 Cryptarithmetic (SEND + MORE = MONEY)

AIM:

Solve SEND + MORE = MONEY by backtracking over digit assignments.

CODE:  
# cryptarithmetic.py

import itertools

def solve():

letters = 'S E N D M O R Y'.split()

for perm in itertools.permutations('0123456789',9):

assign=dict(zip(letters,perm))

if assign['S']=='0' or assign['M']=='0': continue

S,E,N,D,M,O,R,Y = [int(assign[ch]) for ch in letters]

send = 1000\*S+100\*E+10\*N+D

more = 1000\*M+100\*O+10\*R+E

money = 10000\*M+1000\*O+100\*N+10\*E+Y

if send+more==money:

return assign,send,more,money

return None

if \_\_name\_\_=='\_\_main\_\_':

sol=solve()

print(sol)

OUTPUT: 