EXP 4 :-

PROGRAM :-

def is\_valid(mapping, word1, word2, result):

num1 = int(''.join(mapping[char] for char in word1))

num2 = int(''.join(mapping[char] for char in word2))

num\_result = int(''.join(mapping[char] for char in result))

return num1 + num2 == num\_result

def solve\_cryptarithmetic(word1, word2, result):

from itertools import permutations

unique\_chars = set(word1 + word2 + result)

if len(unique\_chars) > 10:

return None

for perm in permutations('0123456789', len(unique\_chars)):

mapping = dict(zip(unique\_chars, perm))

if is\_valid(mapping, word1, word2, result):

return mapping

return None

word1 = "send"

word2 = "more"

result = "money"

solution = solve\_cryptarithmetic(word1, word2, result)

if solution:

print("Solution found:", solution)

else:

print("No solution exists.")

OUTPUT :-

