def lcp(input\_str):

solutions = []

len\_input = len(input\_str)

def fill\_blanks(idx\_subproblem, slate):

# Base case

if idx\_subproblem == len\_input:

solutions.append("".join(slate))

return # Going back up

# Recursive case

if input\_str[idx\_subproblem].isdigit():

slate.append(input\_str[idx\_subproblem])

fill\_blanks(idx\_subproblem + 1, slate)

slate.pop()

else:

slate.append(input\_str[idx\_subproblem].lower())

fill\_blanks(idx\_subproblem + 1, slate)

slate.pop()

slate.append(input\_str[idx\_subproblem].upper())

fill\_blanks(idx\_subproblem + 1, slate)

slate.pop()

fill\_blanks(0, []) # Root manager call

return solutions