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# Python3 program for the above approach

# Function to check if the
# assignment of digits to
# characters is possible
def isSolvable(words, result):
        # Stores the value
        # assigned to alphabets
        mp = [-1]*(26)

        # Stores if a number
        # is assigned to any
        # character or not
        used = [0]*(10)

        # Stores the sum of position
        # value of a character
        # in every string
        Hash = [0]*(26)

        # Stores if a character
        # is at index 0 of any
        # string
        CharAtfront = [0]*(26)

        # Stores the string formed
        # by concatenating every
        # occurred character only
        # once
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uniq = ""


# Iterator over the array,
# words
for word in range(len(words)):
        # Iterate over the string,
        # word
        for i in range(len(words[word])):
                # Stores the character
                # at ith position
                ch = words[word][i]


                # Update Hash[ch-'A]
                Hash[ord(ch) - ord('A')] += pow(10, len(words[word]) - i - 1)


                # If mp[ch-'A'] is -1
                if mp[ord(ch) - ord('A')] == -1:
                        mp[ord(ch) - ord('A')] = 0
                        uniq += str(ch)


                # If i is 0 and word
                # length is greater
                # than 1
                if i == 0 and len(words[word]) > 1:
                        CharAtfront[ord(ch) - ord('A')] = 1


# Iterate over the string result
for i in range(len(result)):
        ch = result[i]
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                Hash[ord(ch) - ord('A')] -= pow(10, len(result) - i - 1)

                # If mp[ch-'A] is -1
                if mp[ord(ch) - ord('A')] == -1:
                        mp[ord(ch) - ord('A')] = 0
                        uniq += str(ch)

                # If i is 0 and length of
                # result is greater than 1
                if i == 0 and len(result) > 1:
                        CharAtfront[ord(ch) - ord('A')] = 1

        mp = [-1]*(26)

        # Recursive call of the function
        return True

# Auxiliary Recursive function
# to perform backtracking
def solve(words, i, S, mp, used, Hash, CharAtfront):
        # If i is word.length
        if i == len(words):
                # Return true if S is 0
                return S == 0

        # Stores the character at
        # index i
        ch = words[i]
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# Stores the mapped value
# of ch
val = mp[ord(words[i]) - ord('A')]

# If val is not -1
if val != -1:
        # Recursion
        return solve(words, i + 1, S + val * Hash[ord(ch) - ord('A')], mp, used, Hash, CharAtfront)

# Stores if there is any
# possible solution
x = False

# Iterate over the range
for l in range(10):
        # If CharAtfront[ch-'A']
        # is true and l is 0
        if CharAtfront[ord(ch) - ord('A')] == 1 and l == 0:
                continue

        # If used[l] is true
        if used[l] == 1:
                continue

        # Assign l to ch
        mp[ord(ch) - ord('A')] = l

        # Marked l as used
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                used[l] = 1

                # Recursive function call
                x |= solve(words, i + 1, S + l * Hash[ord(ch) - ord('A')], mp, used, Hash, CharAtfront)

                # Backtrack
                mp[ord(ch) - ord('A')] = -1

                # Unset used[l]
                used[l] = 0

        # Return the value of x;
        return x

arr = [ "SIX", "SEVEN", "SEVEN" ]
S = "TWENTY"

# Function Call
if isSolvable(arr, S):
        print("Yes")
else:
        print("No")

        # This code is contributed by mukesh07.
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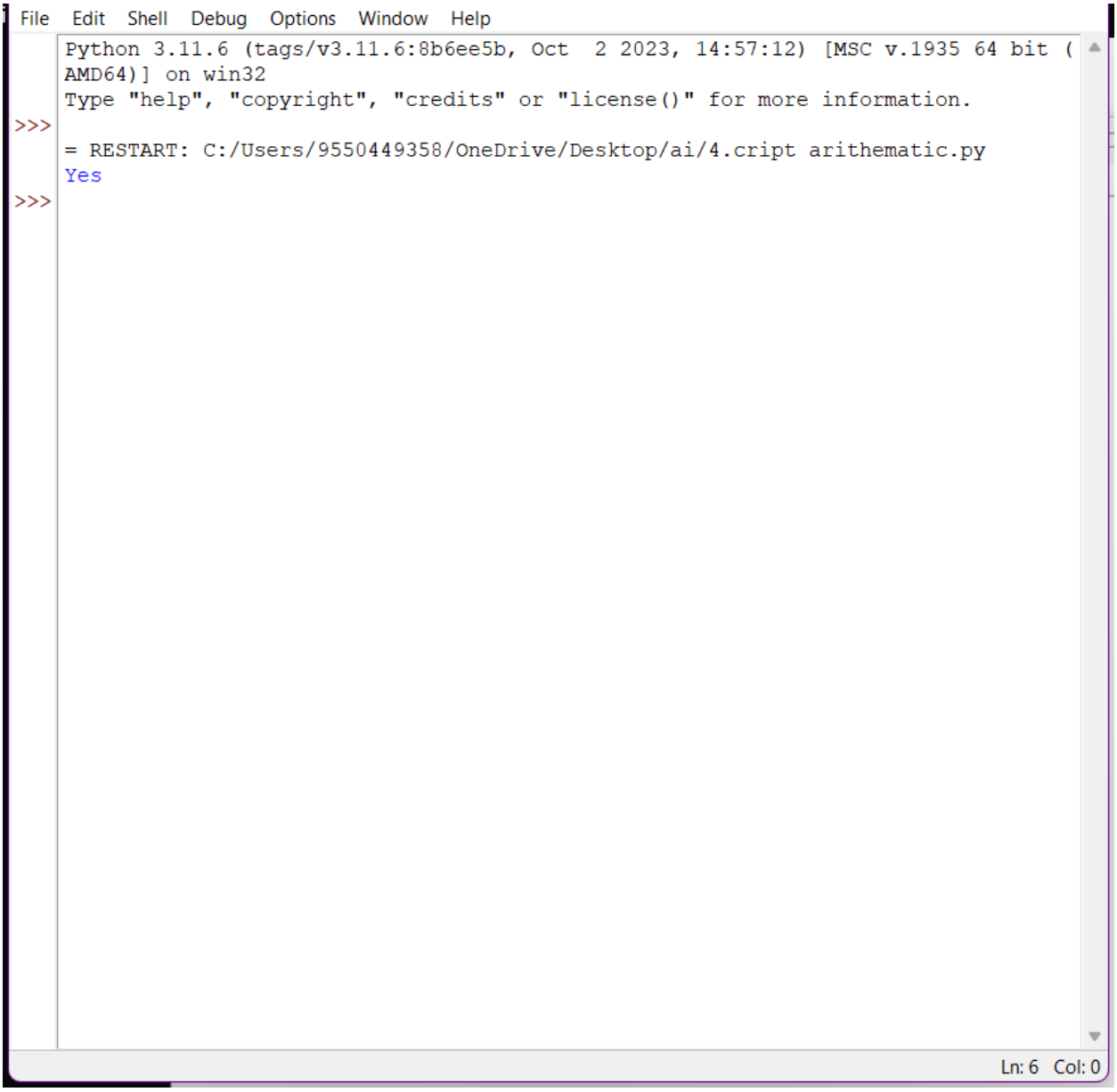
Output:


File Edit Shell Debug Options Window Help
Python 3.11.6 (tags/v3.11.6:8b6ee5b, Oct 2 2023, 14:57:12) [MSC v.1935 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/9550449358/OneDrive/Desktop/ai/4.cript arithematic.py
Yes
>>>
Ln: 6 Col: 0