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CSE A1 SECTION
SRMIST , KTR

AI LAB EXP 3

CRYPTARITHMETIC PROBLEM

PROBLEM STATEMENT

Given an array of strings, arr[] of size N and a string S, the task is to find if it is possible to map integers value in the range [0, 9] to every alphabet that occurs in the strings, such that the sum obtained after summing the numbers formed by encoding all strings in the array is equal to the number formed by the string S.

TOOLS - python3 , AWS

SOURCE CODE :

```
def solutions():
```

```
    all_solutions = list()
    for O in range(9, -1, -1):
        for U in range(9, -1, -1):
            for T in range(9, -1, -1):
                for G in range(9, -1, -1):
                    if len(set([O,U,T])) == 3:
                        GO = G*10+O
                        TO = T*10+O
                        OUT = O*100+U*10+T

                        if GO + TO == OUT:
```

```
        all_solutions.append((GO, TO, OUT))
    return all_solutions
print(solutions())
```

SCREENSHOTS :

```
1 def solutions():
2     all_solutions = list()
3     for G in range(9, -1, -1):
4         for U in range(9, -1, -1):
5             for T in range(9, -1, -1):
6                 if len(set([G, U, T])) == 3:
7                     for O in range(9, -1, -1):
8                         GO = G*10+O
9                         TO = T*10+O
10                        OUT = G*100+U*10+T
11                        if GO + TO == OUT:
12                            all_solutions.append((GO, TO, OUT))
13
14     return all_solutions
15     print(solutions())
```

16:25 Python Spaces: 4

Run Command: RA1911003010003/cryptarithmic.py

Runner: Python 3 CWD ENV

[(81, 21, 182)]

Process exited with code: 0

RESULT

Hence the cryptarithmic problem has been solved successfully