CONSTRAINT SATISFACTION PROBLEM

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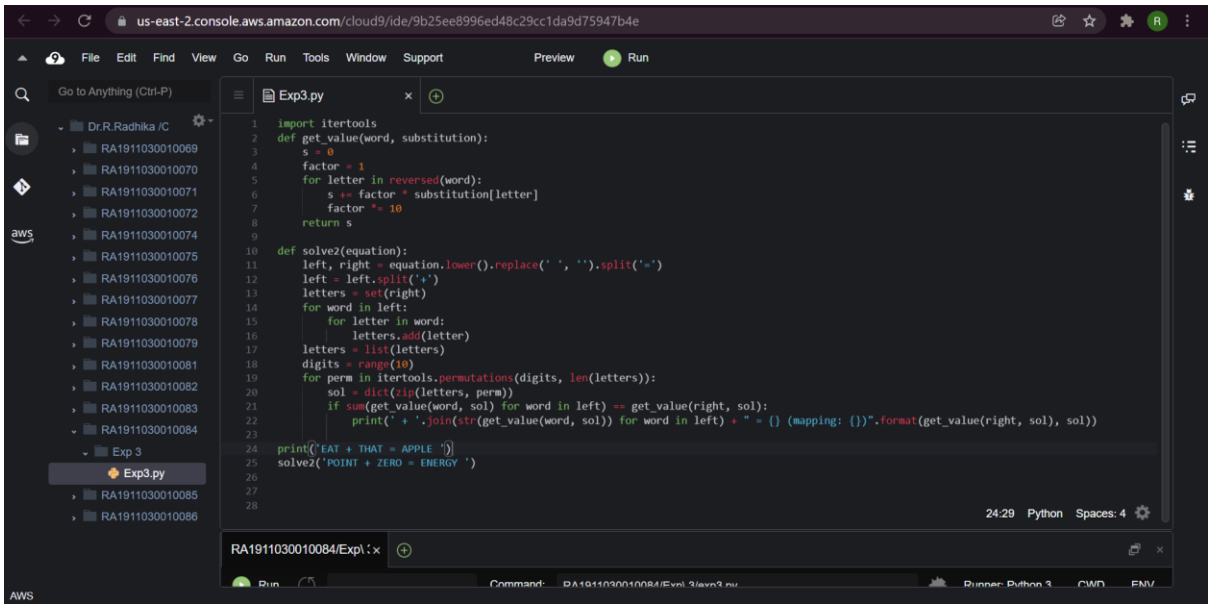
CODE:

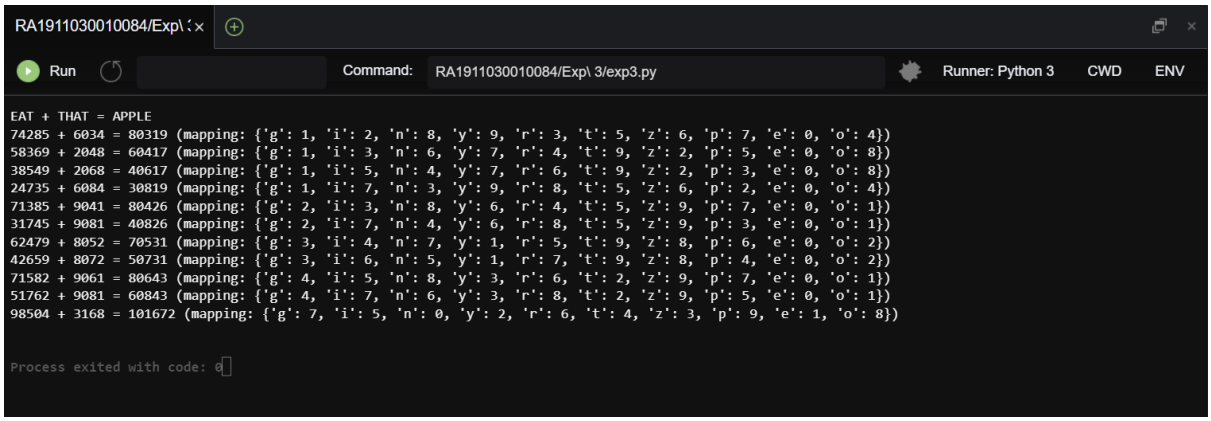
```
import itertools
def get_value(word, substitution):
    s = 0
    factor = 1
    for letter in reversed(word):
        s += factor * substitution[letter]
        factor *= 10
    return s


def solve2(equation):
    left, right = equation.lower().replace(' ', '').split('=')
    left = left.split('+')
    letters = set(right)
    for word in left:
        for letter in word:
            letters.add(letter)
    letters = list(letters)
    digits = range(10)
    for perm in itertools.permutations(digits, len(letters)):
        sol = dict(zip(letters, perm))
        if sum(get_value(word, sol) for word in left) == get_value(right, sol):
            print(' + '.join(str(get_value(word, sol)) for word in left) + " = {} (mapping:
{})".format(get_value(right, sol), sol))
```

print('EAT + THAT = APPLE ')

solve2('POINT + ZERO = ENERGY ')



OUTPUT:



RESULT:

The constraint satisfying problem EAT + THAT = APPLE solved using the carry over technique and values for the alphabets obtained successfully.