EX3: Constraint satisfaction Problems

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AIM: To implement the Constraint Satisfaction Problem based on the given constraints

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)

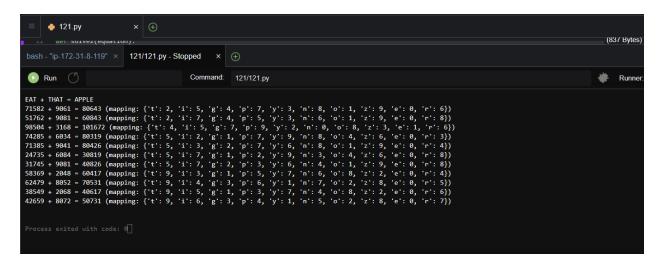
for perm in itertools.permutations(digits, len(letters)):
    sol = dict(zip(letters, perm))

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: Hence we have successfully studied constraint satisfaction problems.