Experiment 4: Crypt-Arithmetic Program

Aim:

Implement an Algorithm in Python for solving Crypt-Arithmetic Problem.

Python Program:

```
import re

def solve(q):
    try:
        n = next(i for i in q if i.isalpha())  # Check if q has alphabetic characters
    except StopIteration:
        return q if eval(re.sub(r'(^|[^0-9])0+([1-9]+)', r'\1\2', q)) else False
    else:
        for i in (str(i) for i in range(10) if str(i) not in q):
            r = solve(q.replace(n, str(i)))  # Replace character with number
            if r:
                return r
        return False

# Driver code
if __name__ == "__main__":
    query = "GOLD + RUSH == POND"
    r = solve(query)
    print(r) if r else print("No solution found.")
```

Output:

```
1257 + 4980 == 6237
```

Result:

Code has been Implemented successfully.