Assignment AIR

Title:-

Constraint satisfication problem

problem statement:-

Implement crypt-arithmetic problem.

Theory:-

cryp arithmetic problem is type of constraint satisfication problem where the game is about digits and its unique replacement either with alphabets or other symbol.

The rules or constraints on a crypt arithmatic problem are as follows:

(1) There should be unique digit to be replaced with uniqwie alphabet.

(2) The result should satisfy the predefined arithmetic rule.

(3) Digit should be from 0-9 only

(4) There should be only one carry forword while performing addition operation.

(5) The problem can be solved from both side LHS, RHS

(6) Given cryptarithmetic problem

```
  SEND
+ MORE
 MONEY
```

```
   S              9
 + M    →       + 1
 MO              10

   E    X         5
 + O   ——→      + 0
   N              5

                 (1) ← carry
   E   ——→        5
 + O            + 0
   N              6

                 (1) ← carry
   N   ——→        6
 + R            + 8
   E             15

   D   ——→        7
 + E            + 5
   Y             12
```

S	9
E	5
N	6
D	7
M	1
O	0
R	8
Y	2

Conclusion :-

Thus we have successfully implemented cryptarithmetic problem.