Title: Constraint satisfaction problems

EX. NO : 03 Name: Parth Langalia

DATE : 01-02-2023 **Reg No. :** RA2011033010033

AIM :

To implement and execute cryptoarithematic problems.

PSEUDO CODE :

1.Create a list of all the characters.

2.Examine the rightmost digit of the topmost rows.

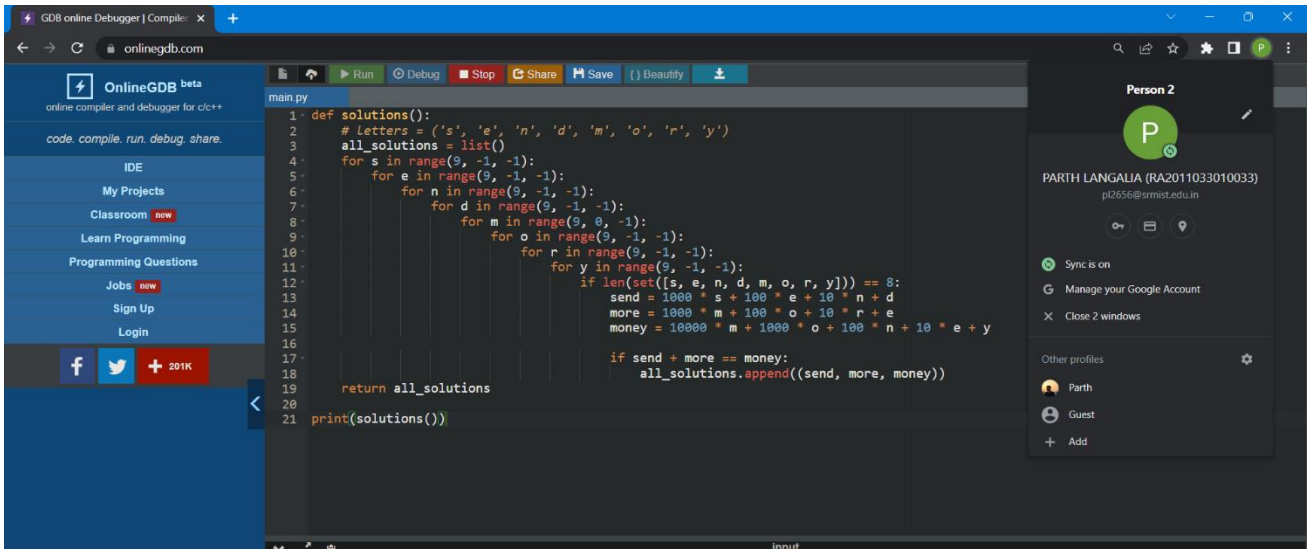
3.Use the list to find out the best choice among the digits not in use.

4.If all characters are assigned return true, if puzzle is solved, else return false.

5.If all digits have been tried and nothing works, return false to trigger backtracking.

6.End

PROGRAM :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Stop
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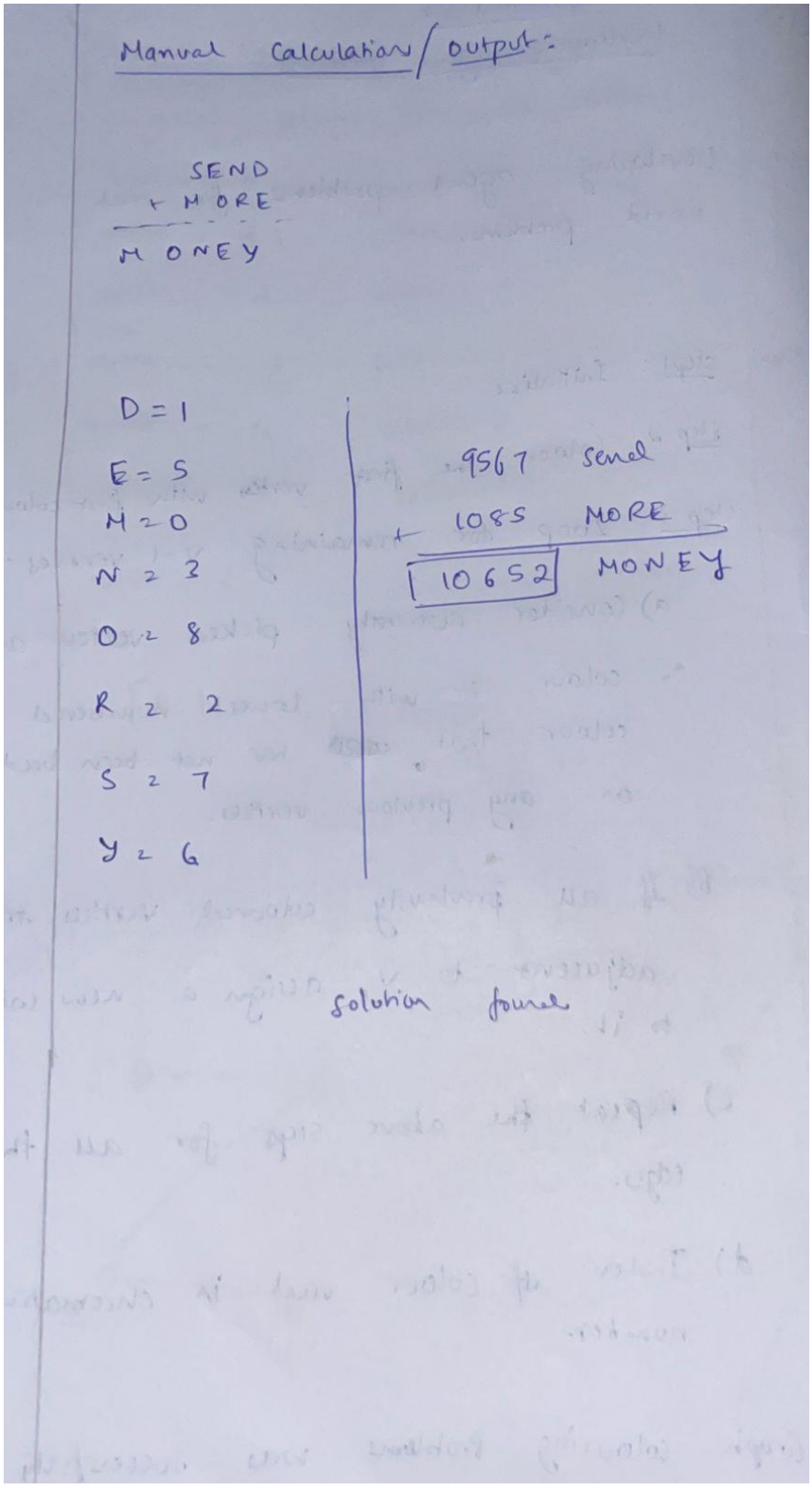
{ } Beautify
main.py
def solutions():
# letters = ('s', 'e', 'n', 'd', 'm', 'o', 'r', 'y')
all_solutions = list()
for s in range(9, -1, -1):
for e in range(9, -1, -1):
for n in range(9, -1, -1):
for d in range(9, -1, -1):
for m in range(9, 0, -1):
for o in range(9, -1, -1):
for r in range(9, -1, -1):
for y in range(9, -1, -1):
if len(set([s, e, n, d, m, o, r, y])) == 8:
send = 1000 * s + 100 * e + 10 * n + d
more = 1000 * m + 100 * o + 10 * r + e
money = 10000 * m + 1000 * o + 100 * n + 10 * e + y
if send + more == money:
all_solutions.append((send, more, money))
return all_solutions
print(solutions())
input
Person 2
PARTH LANGALIA (RA2011033010033)
pl2656@srmist.edu.in
Sync is on
Manage your Google Account
Close 2 windows
Other profiles
Parth
Guest
Add

Manual Calculations :



Manual Calculation / Output :

SEND
+ MORE

MONEY

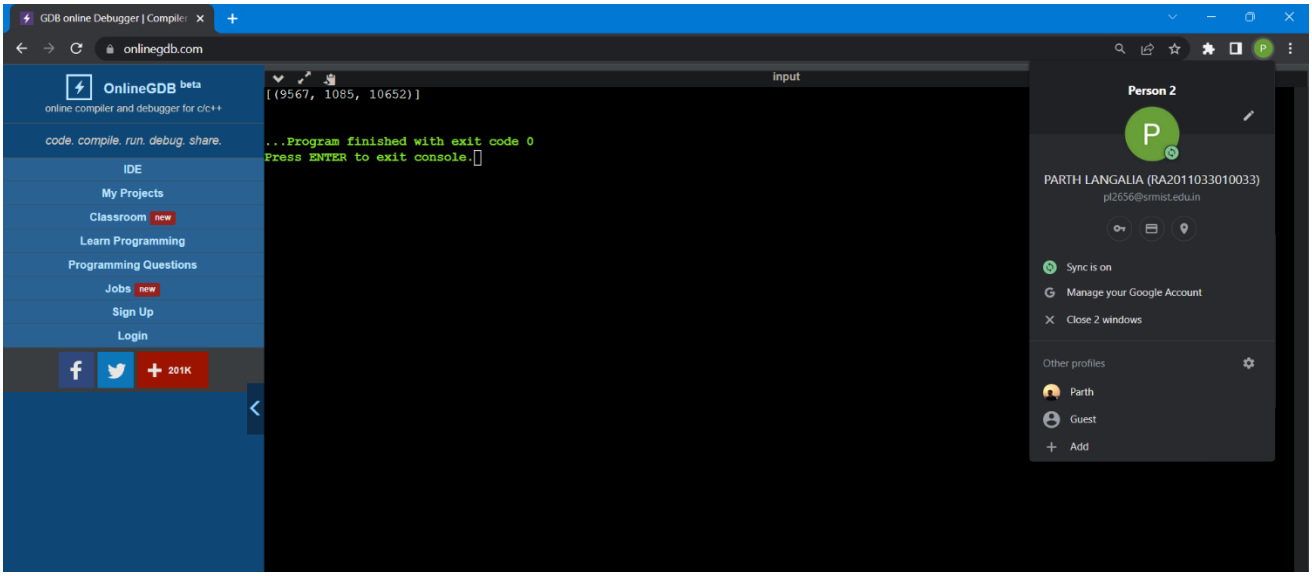
D = 1
E = 5
M = 0
N = 3
O = 8
R = 2
S = 7
Y = 6

9567 send
+ 1085 MORE

10652 MONEY

solution found

OUTPUT :



RESULT :

The constraint satisfying problem SEND + MORE = MONEY solved using the carry over technique and values for the alphabets obtained successfully.