

Anjan\_Sesetty\_vietchMaps.py

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1  fp=open("3jr_testdata.txt","r")
2  hexToBin={"0":"0000","1":"0001","2":"0010","3":"0011","4":"0100","5":"0101","6":"0110","7":"0111","8":"1000","9":"1001","A":"1010","B":"1011","C":"
3  for line in fp.readlines():
4      row1=list(hexToBin[line[0]])
5      row2=list(hexToBin[line[1]])
6      terms=[]
7      fourGroups=["A","C","~A","~C"]
8      twoGroups1=["AB","BC","~AB","B~C"]
9      twoGroups2=["A~B","~BC","~A~B","~B~C"]
10     twoGroups3 = ["A~C","AC","~AC","~A~C"]
11     oneGroup1 = ["AB~C","ABC","~ABC","~AB~C"]
12     oneGroup2 = ["A~B~C","A~BC","~A~BC","~A~B~C"]
13     while "1" in row1 or "1" in row2:
14         if row1=="1","1","1","1":
15             terms.append("B")
16             row1 = ["0","0","0","0"]
17         if row2=="1","1","1","1":
18             terms.append("~B")
19             row2 = ["0","0","0","0"]
20         for i in range(3):
21             if row1[i:i+2]==row2[i:i+2] and row1[i:i+2]=="1","1":
22                 terms.append(fourGroups[i])
23                 row1[i]="0"
24                 row1[i+1]="0"
25                 row2[i] = "0"
26                 row2[i+1]="0"
27         if row1[0]+row1[-1]==row2[0]+row2[-1] and row1[0]+row1[-1]=="11":
28             terms.append(fourGroups[-1])
29             row1[0]="0"
30             row1[-1]="0"
31             row2[0]="0"
32             row2[-1]="0"
33         for x in range(3):
34             if row1[x:x+2]=="1","1":
35                 terms.append(twoGroups1[x])
36                 row1[x]="0"
37                 row1[x+1]="0"
38         for j in range(3):
39             if row2[j:j+2]=="1","1":
40                 terms.append(twoGroups2[j])
41                 row2[j]="0"
42                 row2[j+1]="0"
43         for z in range(4):
44             if row1[z]=="1" and row1[z]==row2[z]:
45                 terms.append(twoGroups3[z])
46                 row1[z]="0"
47                 row2[z]="0"
48         if row1[0]+row1[-1]=="11":
49             terms.append(twoGroups1[-1])
50             row1[0] = "0"
51             row1[-1] = "0"
52         elif row2[0]+row2[-1]=="11":
53             terms.append(twoGroups2[-1])
54             row2[0] = "0"
55             row2[-1] = "0"
56         for i1 in range(4):
57             if row1[i1]=="1":
58                 terms.append(oneGroup1[i1])
59                 row1[i1]="0"
60         for i2 in range(4):
61             if row2[i2]=="1":
62                 terms.append(oneGroup2[i2])
63                 row2[i2]="0"
64         break
65     print("+".join(terms))

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