

```

1 def split_list(data):
2     divide_index = data.index("")
3     return data[:divide_index], data[divide_index+1:]
4
5
6 file = open("matrix.txt", "r")
7 data = file.read()
8 file.close()
9 data = data.split("\n")
10 matA, matB = split_list(data)
11 output = []
12 roundsA = 0
13 roundsB = 0
14 i = len(matA)
15 j = 0
16 k = 0
17
18
19 for index, x in enumerate(matA):
20     matA[index] = list(map(int, matA[index].strip().split()))
21     j = len(matA[index])
22     roundsA += len(matA[index])
23 for index, x in enumerate(matB):
24     matB[index] = list(map(int, matB[index].strip().split()))
25     k = len(matB[index]) # paththata
26     roundsB += len(matB[index])
27 if(j == len(matB)):
28     print("Matrices can be multiplied")
29     rounds = roundsB+roundsA+7
30     output.append("MEM[0]=16'd5; //mat_a_base")
31     output.append("MEM[1]=16'd{}; //mat_b_base".format(7+roundsA))
32     output.append("MEM[2]=16'd{}; //mat_c_base
33 \n".format(7+roundsA+roundsB))
34     output.append("MEM[3]=16'd{}; //i_ref".format(i))
35     output.append("MEM[4]=16'd{}; //j_ref \n".format(j))
36     count = 5
37     for i in matA:
38         output.append("//{}".format(i))
39         for j_item in i:
40             output.append("MEM[{}]=16'd{};".format(count, j_item))
41             count += 1
42     output.append("\nMEM[{}]=16'd{}; //j_ref".format(count, j))
43     output.append("MEM[{}]=16'd{}; //k_ref\n".format(count+1, k))
44     count += 2
45     for i in matB:
46         output.append("//{}".format(i))
47         for j_item in i:
48             output.append("MEM[{}]=16'd{};".format(count, j_item))
49             count += 1
50
51 file = open("output.txt", "w")
52 result = [[sum(a*b for a, b in zip(X_row, Y_col))
53            for Y_col in zip(*matB)] for X_row in matA]
54 output.append("\n//results should be..")

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54     for item in result:
55         output.append("//{}".format(item))
56     for element in output:
57         file.write(element + "\n")
58     file.close()
59 else:
60     print("Matrices can't be multiplied")
```