

```

1 #Function declaration, with 2 parameters, matrix a and matrix b
2 def matrixmultiplication (A, B):
3
4     #get row and colum sizes
5     Arows = len(A)
6     Brows = len(B)
7     Bcols = len(B[0])
8     Acols = len(A[0])
9
10    #check the matrix can be done
11    if Acols != Brows: #see line 26
12        print("Not applicable")
13        return
14
15    #create the reuslting matrix filled with zeros
16    C = []
17    for row in range(0,Bcols):
18        newrow = []
19        for col in range(0,Arows):
20            newrow += [0]
21        C += [newrow]
22
23    #the nested for loops are used to loop over the rows and columns
24    for i in range(Arows): #the rows in A
25        for j in range(Bcols): #Column in B
26            for k in range(Acols): #the row in B , see line 11
27                #add to the result
28                #result[row][column] += A[row][column] * B[row][column]
29                #Because this is looping over the rows, this is adding
results
30                C[i][j] += A[i][k] * B[k][j]
31
32    #the function sends the answer back
33    return C
34
35 #code to test rhe function 2x3 * 3x2
36 #testing a 2x2 * 2x2 is not a good idea, as the rows and cols may be mixed up
37 #but because they are the same size you might not know.
38 #matrix example and walkthrough is at ...
39 #https://www.mathsisfun.com/algebra/matrix-multiplying.html
40 m1 = [[1,2,3],
41        [4,5,6]]
42
43 m2 = [[7,8],
44        [9,10],
45        [11,12]]
46
47 #store result from the function return
48 result = matrixmultiplication(m1,m2)
49
50 #loop over the rows in the resulting matrix to print by row
51 for row in result:
52     print(row)
53
54
55 #Original problem source
56 #https://www.gla.ac.uk/media/Media_632422_smxx.pdf

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