

Task 1	<p>What will be printed on the screen</p> <pre>import numpy as np list1 = [False,True,True,False,False] list2 = [True,True,False,False,True] x1 = np.array(list1) y1 = np.array(list2) z1 = x1 y1 print(z1) z2 = x1 & y1 print(z2)</pre> <p>Also, what will be the output when</p> <p>(i) list1 = [True,True,True,True], list2=[True,True,True,True] (ii) list1 = [False,False,False,False], list2=[True,True,True,True] (iii) list1 = [True,True,True,True], list2=[False,False,False,False] (iv) list1 = [False,False,False,False], list2=[False,False,False,False] (v) list1 = [False], list2=[True] (vi) list1 = [True], list2=[False]</p>										
Task 2	<p>What will be printed on the screen</p> <pre>import numpy as np list1 = [7,8,4,10,2,15,6,3,9,15,11] x1 = np.array(list1) m1 = 4 m2 = 10 y1 = x1 > m1 y2 = x1 < m2 y3 = y1 & y2 print(y3) z1 = x1[y1] print(z1)</pre> <p>Also, what will be the output when</p> <p>(i) list1 = [10,15,2,6,8,1], m1=3, m2=20 (ii) list1 = [20], m1=5, m2=15</p>										
Task 3	<p>The marks of an examination have been given as a list. Create an array consisting of the marks which are more than 52 and less than 77. Print this array.</p>										
Test Cases	<table> <tr> <th>Input</th><th>Expected Output</th></tr> <tr> <td>[50,70,80,90,55,65,75,80,85]</td><td>[70,55,65,75]</td></tr> <tr> <td>[51,52,61,65,50]</td><td>[61,65]</td></tr> <tr> <td>[81]</td><td>[]</td></tr> <tr> <td>[57,61,73,66,59]</td><td>[57,61,73,66,59]</td></tr> </table>	Input	Expected Output	[50,70,80,90,55,65,75,80,85]	[70,55,65,75]	[51,52,61,65,50]	[61,65]	[81]	[]	[57,61,73,66,59]	[57,61,73,66,59]
Input	Expected Output										
[50,70,80,90,55,65,75,80,85]	[70,55,65,75]										
[51,52,61,65,50]	[61,65]										
[81]	[]										
[57,61,73,66,59]	[57,61,73,66,59]										

Task 4	Two examinations were conducted. The marks have been provided in list1 and list2. Find the number of students who scored more than 60 in both the examinations.	
Test Cases	Input	Expected Output
	[65,47,50,77,55,61,66], [57,48,64,82,57,65,63]	More than 60 in both : 3
	[51,52,61,65,50], [71,66,49,58,77]	More than 60 in both : 0
	[81,90,88,87,75,91], [84,93,80,74,85,66]	More than 60 in both : 6

Task 5	Two examinations were conducted. The marks have been provided in list1 and list2. Find the number of students who scored more than 60 in only one exam. They could have scored more than 60 in exam1 or exam2 but not in both.	
Test Cases	Input	Expected Output
	[65,47,50,77,55,61,66], [57,48,64,82,57,65,63]	More than 60 in exactly one : 2
	[51,52,61,65,50], [71,66,49,58,77]	More than 60 in exactly one : 5
	[81,90,88,87,75,91], [84,93,80,74,85,66]	More than 60 in exactly one : 0

Task 6	The daily sales for two products have been given in list1 and list2. Print the number of days when the following conditions have been satisfied - Total sales is greater than average total sales - Sales of product1 is greater than the average sales of product1 - Sales of product2 is greater than the average sales of product2	
Test Cases	Input	Expected Output
	[45,47,50,41,55,61,66], [37,48,44,41,57,61,64]	3
	[12,15,12,15,21,22,14], [12,15,12,15,21,22,14]	2
	[55,57,53,58,64,55,54], [8,10,9,11,10,12,11]	1