**Assignment No-05**

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**Title-**Bidirectional Associative Memory with two pairs of vectors.

**Program:**

import numpy as np

x1=np.array([1,1,1,-1])

y1=np.array([1,-1])

x2=np.array([-1,-1,1,1])

y2=np.array([-1,1])

W=np.outer(y1,x1)+np.outer(y2,x2)

def bam(x):

y=np.dot(W,x)

y=np.where(y>=0,1,-1)

return y

x\_test=np.array([1,-1,-1,-1])

y\_test=bam(x\_test)

print("Input x:",x\_test)

print("Output:",y\_test)

**Output:**

Input x: [ 1 -1 -1 -1]

Output: [ 1 -1]