2.	Sean	las	siguientes	${\it matrices}$	de	3×3 :	

$$A = \begin{pmatrix} 1 & 3 & 0 \\ 0 & 1 & 2 \\ 1 & 0 & 1 \end{pmatrix} \quad B = \begin{pmatrix} 1 & 1 & 1 \\ 3 & 0 & 1 \\ 2 & 0 & 2 \end{pmatrix} \quad C = \begin{pmatrix} c_{11} & c_{12} & c_{13} \\ c_{21} & c_{22} & c_{23} \\ c_{31} & c_{32} & c_{33} \end{pmatrix}$$

Para cada una de las siguientes particiones en bloques, indicar si es realizable el producto C = AB en bloques. En caso de ser realizable, calcular cada bloque C_{ij} indicando sus dimensiones.

a)
$$A_{11} = [a_{11}], A_{12} = [a_{12}, a_{13}], A_{21} = \begin{bmatrix} a_{21} \\ a_{31} \end{bmatrix}, A_{22} = \begin{bmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{bmatrix}$$

 $B_{11} = [b_{11}], B_{12} = [b_{12}, b_{13}], B_{21} = \begin{bmatrix} b_{21} \\ b_{31} \end{bmatrix}, B_{22} = \begin{bmatrix} b_{22} & b_{23} \\ b_{32} & b_{33} \end{bmatrix}$

b)
$$A_{11} = \begin{bmatrix} a_{11} & a_{12} \end{bmatrix}$$
, $A_{12} = \begin{bmatrix} a_{13} \end{bmatrix}$, $A_{21} = \begin{bmatrix} a_{21} & a_{22} \\ a_{31} & a_{32} \end{bmatrix}$, $A_{22} = \begin{bmatrix} a_{23} \\ a_{33} \end{bmatrix}$
 $B_{11} = \begin{bmatrix} b_{11} \end{bmatrix}$, $B_{12} = \begin{bmatrix} b_{12} & b_{13} \end{bmatrix}$, $B_{21} = \begin{bmatrix} b_{21} \\ b_{31} \end{bmatrix}$, $B_{22} = \begin{bmatrix} b_{22} & b_{23} \\ b_{32} & b_{33} \end{bmatrix}$

c)
$$A_{11} = \begin{bmatrix} a_{11} \\ a_{21} \end{bmatrix}$$
, $A_{12} = \begin{bmatrix} a_{12} & a_{13} \\ a_{22} & a_{23} \end{bmatrix}$, $A_{21} = [a_{31}]$, $A_{22} = [a_{32} \ a_{33}]$
 $B_{11} = [b_{11}]$, $B_{12} = [b_{12} \ b_{13}]$, $B_{21} = \begin{bmatrix} b_{21} \\ b_{31} \end{bmatrix}$, $B_{22} = \begin{bmatrix} b_{22} & b_{23} \\ b_{32} & b_{33} \end{bmatrix}$
¿Qué otras particiones válidas son posibles?

a)						
A41 1	A ₁₂	BH BIZ		CH C12		
			=			
Azı	Azz	B21 B22		C21 C22		
CH	= A11 B11	+ A12 B21				
Δ.,	A ₁₂	BH BIZ		C11 C12		
		1	=	11		
Azı	Azz ·	B21 B22		C21 C22		
	4					
C12	= A11 B12	+ A12 B22				
	A ₁₂		=	C11 C12		
A ₂₊	Azz ·	B21 B22	_	C21 C22		
	1					
C71	= Az1 B11	+ A22 B21				
A44	A12	BH BIZ		C11 C12		
Azı	A _{zz} .	B21 B22	=	C21 , C22		
				-		
C_{zz}	= Az1 B1z	+ A22 B22				
A44 1	A12	By BIZ		C11 C12		
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	A ₂ z	B21 B22	=			
Azı	Azz	D21 D22		C21 C22		

P)											_
_ A ₁₁	A12	Bul	Bız		_		}				
	A ₂₂	B21	Ω	=		X					
J-121	Azz	1021	Dzz.								
No k	lay solu	ción.									
											-
											-
											-
											1

د)							
				<u>_</u>	_		
		BH BIZ					
1 1	A12 .	B21 BZZ	=	C11			
A21 1	Azz	021 022					
	1				-		
Cu	= Au Ru	+ A12 B21					
	1 (11 1)11	1 446 1321					
		BH BIZ					
A ₁₁	A12 .	B21 B22	=				
A	Azz	1521 BZZ					
L	1						
C12	=						
	1	BH BIZ		1	7		
A ₁₁	A12 .		=				
	Azz	B21 B22	_				
121	AZZ			L	4		
Czi	=						
	7	0 0		<u> </u>	7		
A ₁₁	A12	BH BIZ					
1 1		B21 B22	=				
A21	Azz						
Czz	=						
					7		
A ₁₁	A12	BH BIZ					
1 1		B21 B22	=				
Azı	Azz						