Universidad Corporativa | Programas Académicos

Ingeniería en Desarrollo de Software

Actividad | # 1| Matrices

Ingeniería en Desarrollo de Software

academia global

TUTOR: Eduardo Israel Castillo Garcia

ALUMNO: Alexis Zapata Barbis

FECHA: 02/03/2025

Índice

1 Introducción

Las matrices son números y símbolos que se organizan en filas y columnas, los cuales se utilizan para poder organizar y manipular enormes cantidades de datos.

2 Descripción}

En esta actividad aprenderemos a crear matrices, las cuales debemos multiplicar dicha matriz por una escalar, también crearemos matrices de sumas y restas las cuales se utilizan sumando y restando los elementos correspondientes de dichas matrices.

3 Justificación

Las matrices estas echas para guardad cantidades enormes de información los cuales son una herramienta muy eficaz a la hora de solicitar datos que necesitemos , esto nos ayuda a tener una mejora en la productividad.

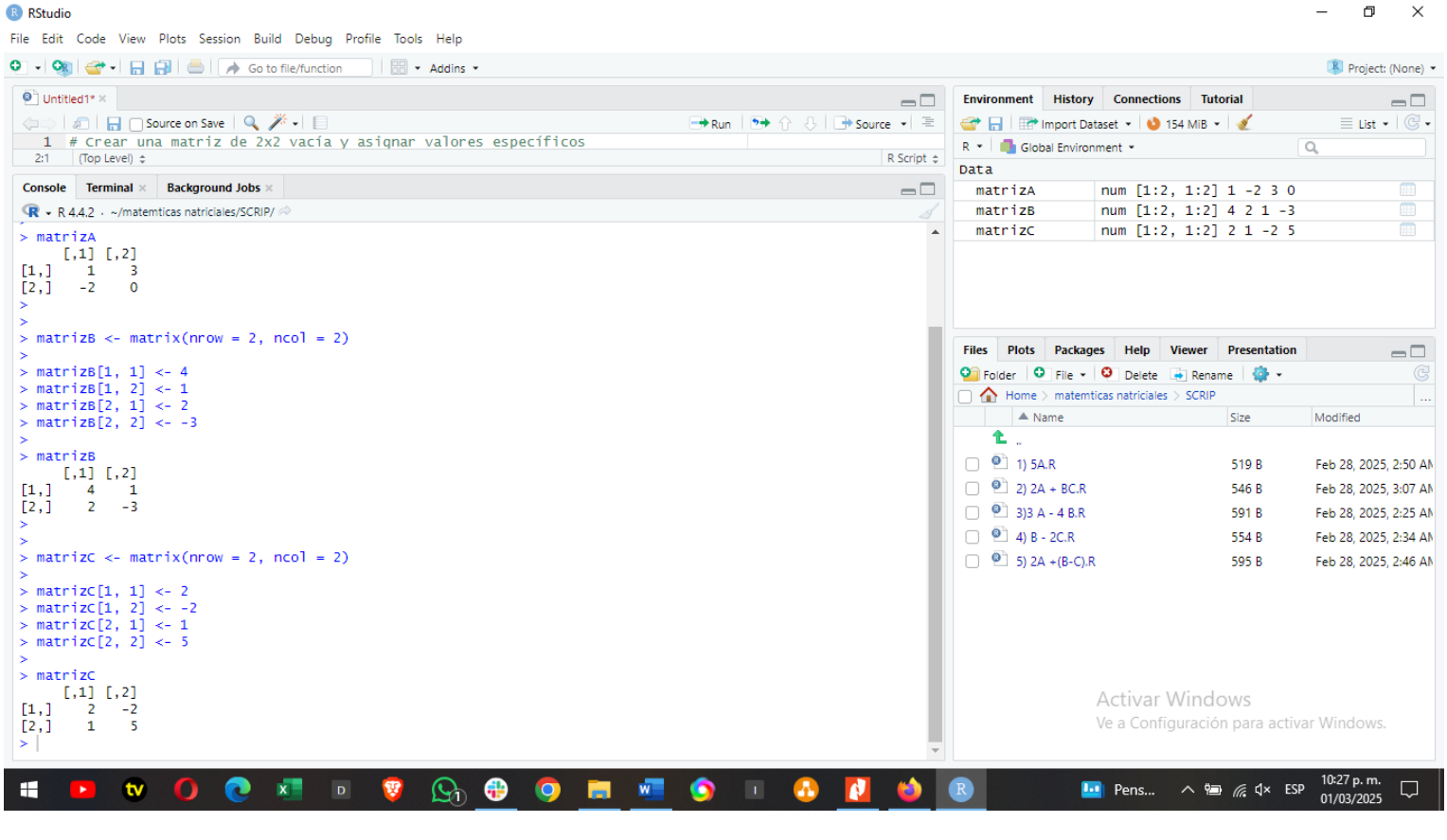
4 Desarrollo

4.1 Matriz 1

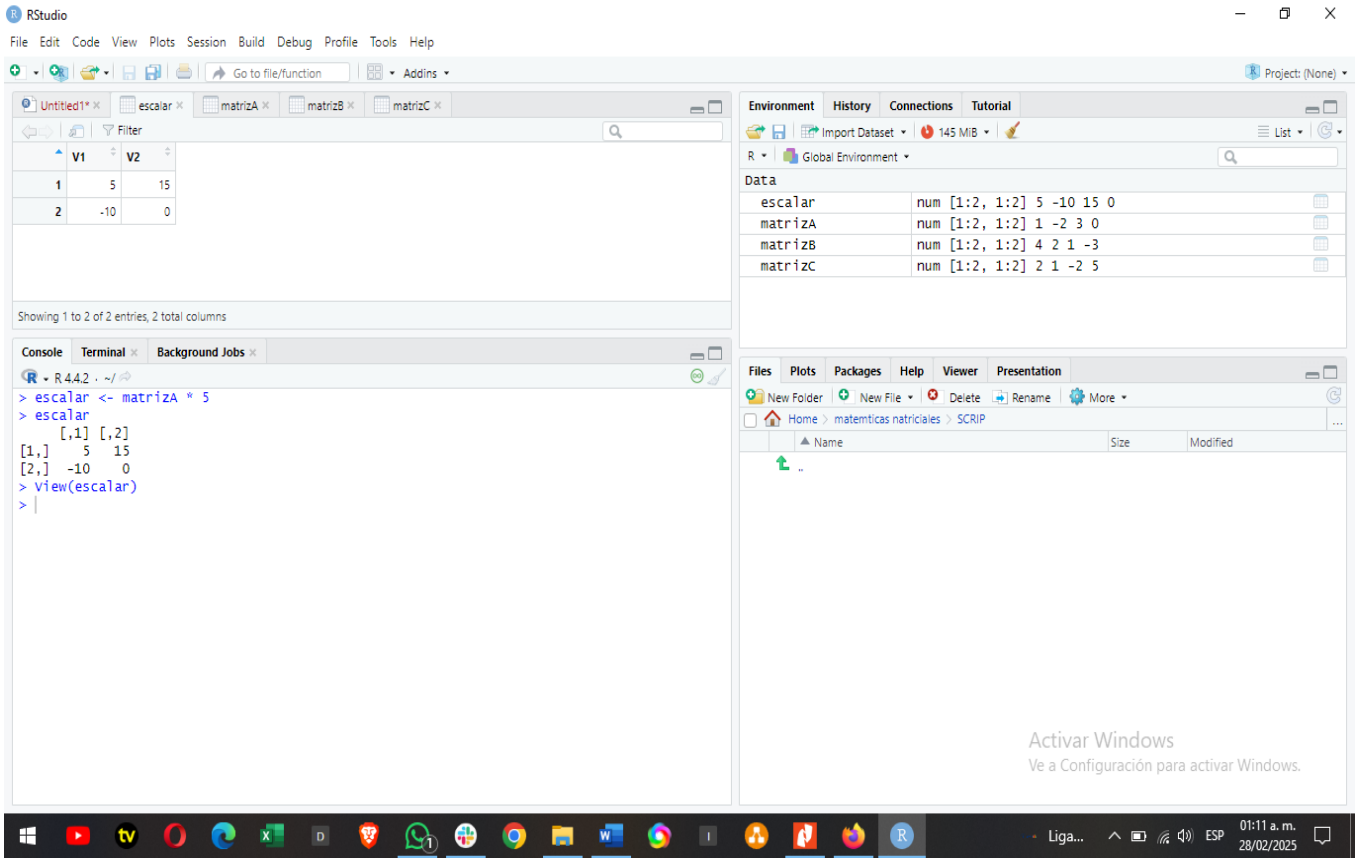
1) Sean las matrices:

$$A = \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix} \qquad B = \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix} \qquad C = \begin{bmatrix} 2 & -2 \\ 1 & 5 \end{bmatrix}$$

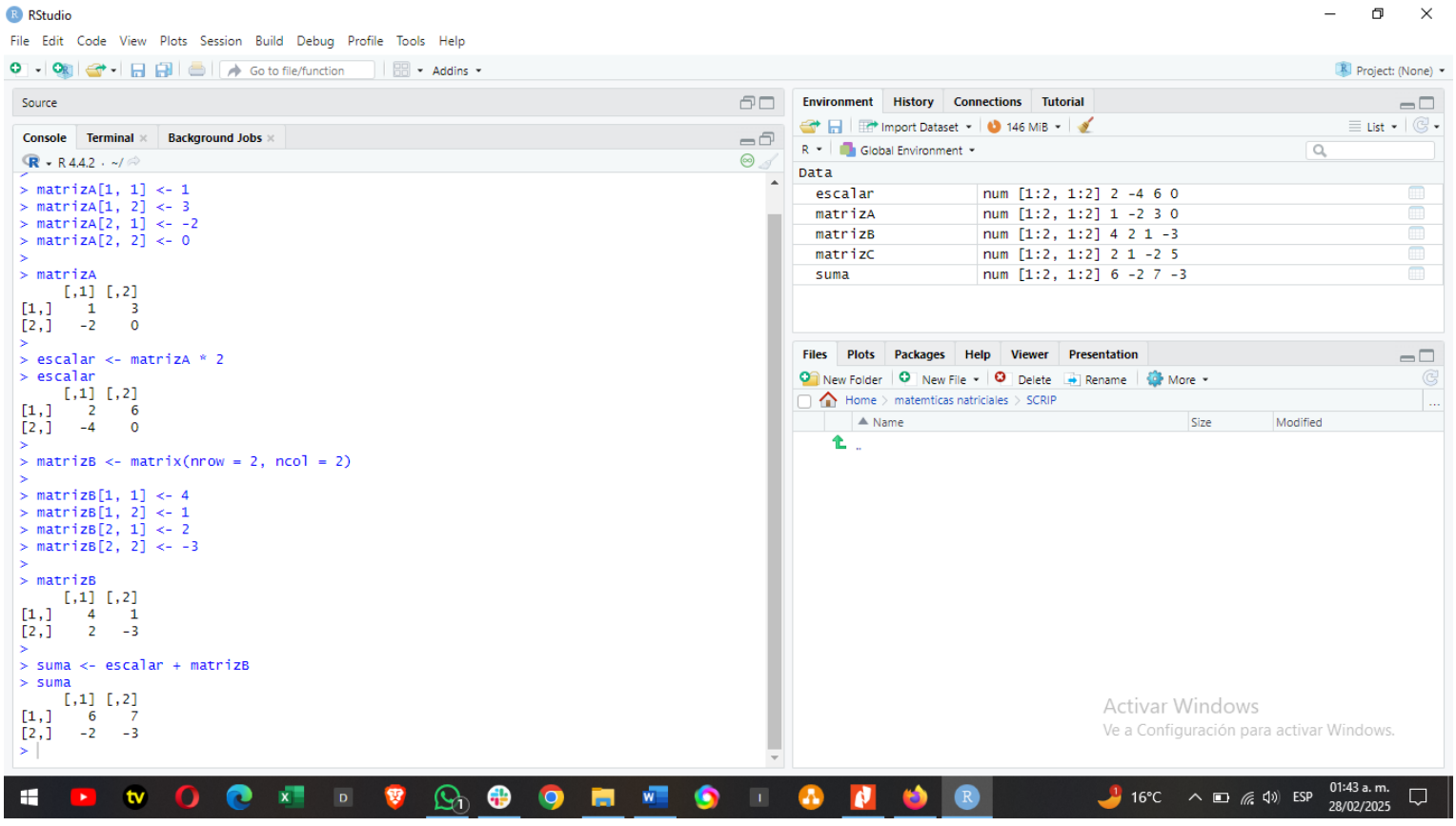
Ejecutar las siguientes operaciones: 1) 5A 2) 2A + B 3) 3A – 4B 4) B – 2C 5) 2A + (B – C)



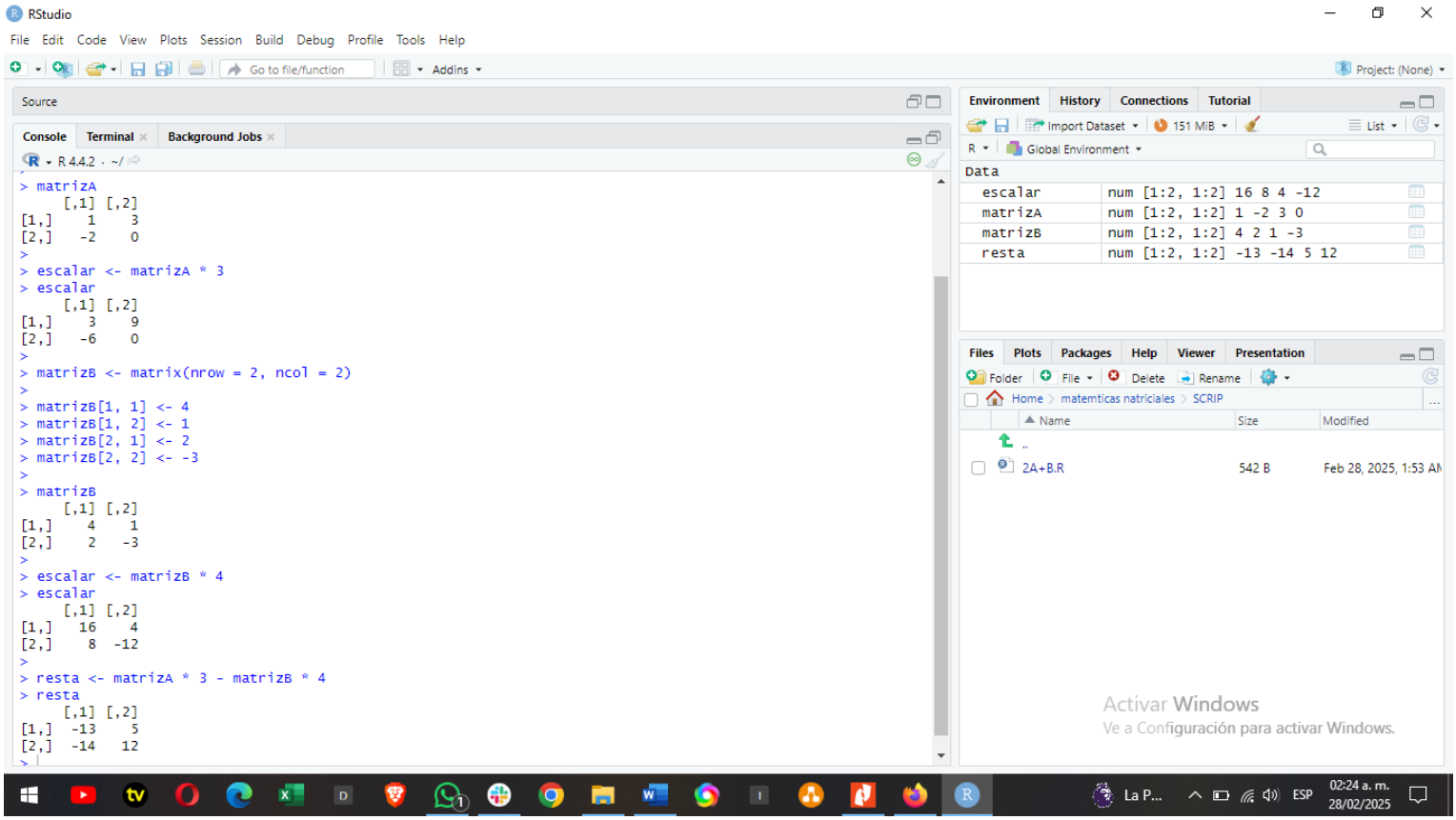
1) $5^a =$


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
Untitled1*
escalar
matrizA
matrizB
matrizC
Filter
V1 V2
1 5 15
2 -10 0
Showing 1 to 2 of 2 entries, 2 total columns
Environment History Connections Tutorial
Import Dataset
145 MiB
List
R
Global Environment
Data
escalar num [1:2, 1:2] 5 -10 15 0
matrizA num [1:2, 1:2] 1 -2 3 0
matrizB num [1:2, 1:2] 4 2 1 -3
matrizC num [1:2, 1:2] 2 1 -2 5
Console Terminal Background Jobs
R 4.4.2 · ~/
> escalar <- matrizA * 5
> escalar
[,1] [,2]
[1,] 5 15
[2,] -10 0
> view(escalar)
>
Files Plots Packages Help Viewer Presentation
New Folder
New File
Delete
Rename
More
Home
matemticas natriciales
SCRIP
Name
Size
Modified
Activar Windows
Ve a Configuración para activar Windows.
Liga...
ESP
01:11 a. m.
28/02/2025

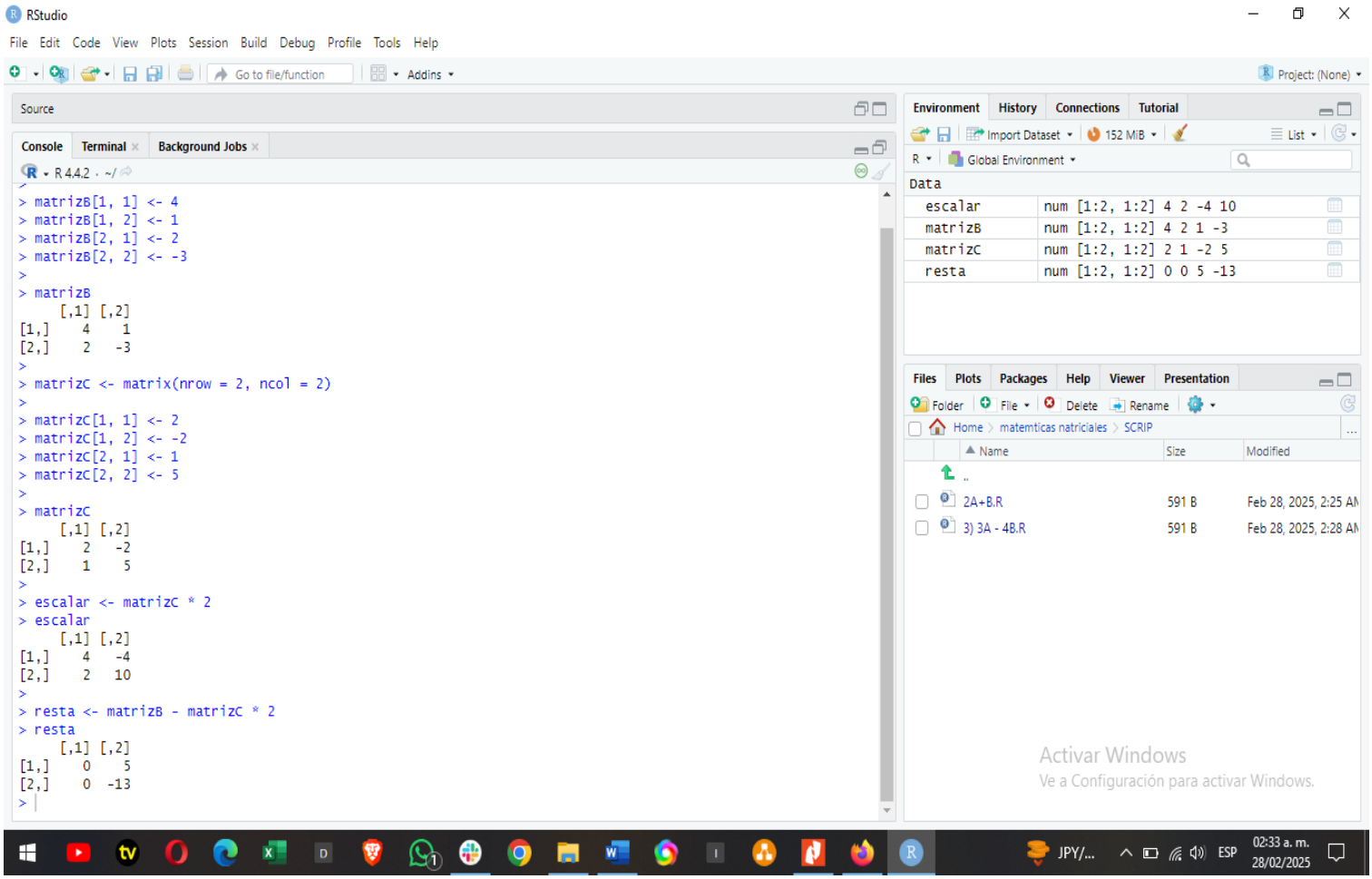
2) 2A + B


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
R 4.4.2 · ~/
> matrizA[1, 1] <- 1
> matrizA[1, 2] <- 3
> matrizA[2, 1] <- -2
> matrizA[2, 2] <- 0
> matrizA
[,1] [,2]
[1,] 1 3
[2,] -2 0
> escalar <- matrizA * 2
> escalar
[,1] [,2]
[1,] 2 6
[2,] -4 0
> matrizB <- matrix(nrow = 2, ncol = 2)
> matrizB[1, 1] <- 4
> matrizB[1, 2] <- 1
> matrizB[2, 1] <- 2
> matrizB[2, 2] <- -3
> matrizB
[,1] [,2]
[1,] 4 1
[2,] 2 -3
> suma <- escalar + matrizB
> suma
[,1] [,2]
[1,] 6 7
[2,] -2 -3
Environment History Connections Tutorial
Import Dataset 146 MiB List
Global Environment
Data
escalar num [1:2, 1:2] 2 -4 6 0
matrizA num [1:2, 1:2] 1 -2 3 0
matrizB num [1:2, 1:2] 4 2 1 -3
matrizC num [1:2, 1:2] 2 1 -2 5
suma num [1:2, 1:2] 6 -2 7 -3
Files Plots Packages Help Viewer Presentation
New Folder New File Delete Rename More
Home matemticas natriciales SCRIP
Name Size Modified
Activar Windows
Ve a Configuración para activar Windows.
16°C
ESP
01:43 a. m.
28/02/2025

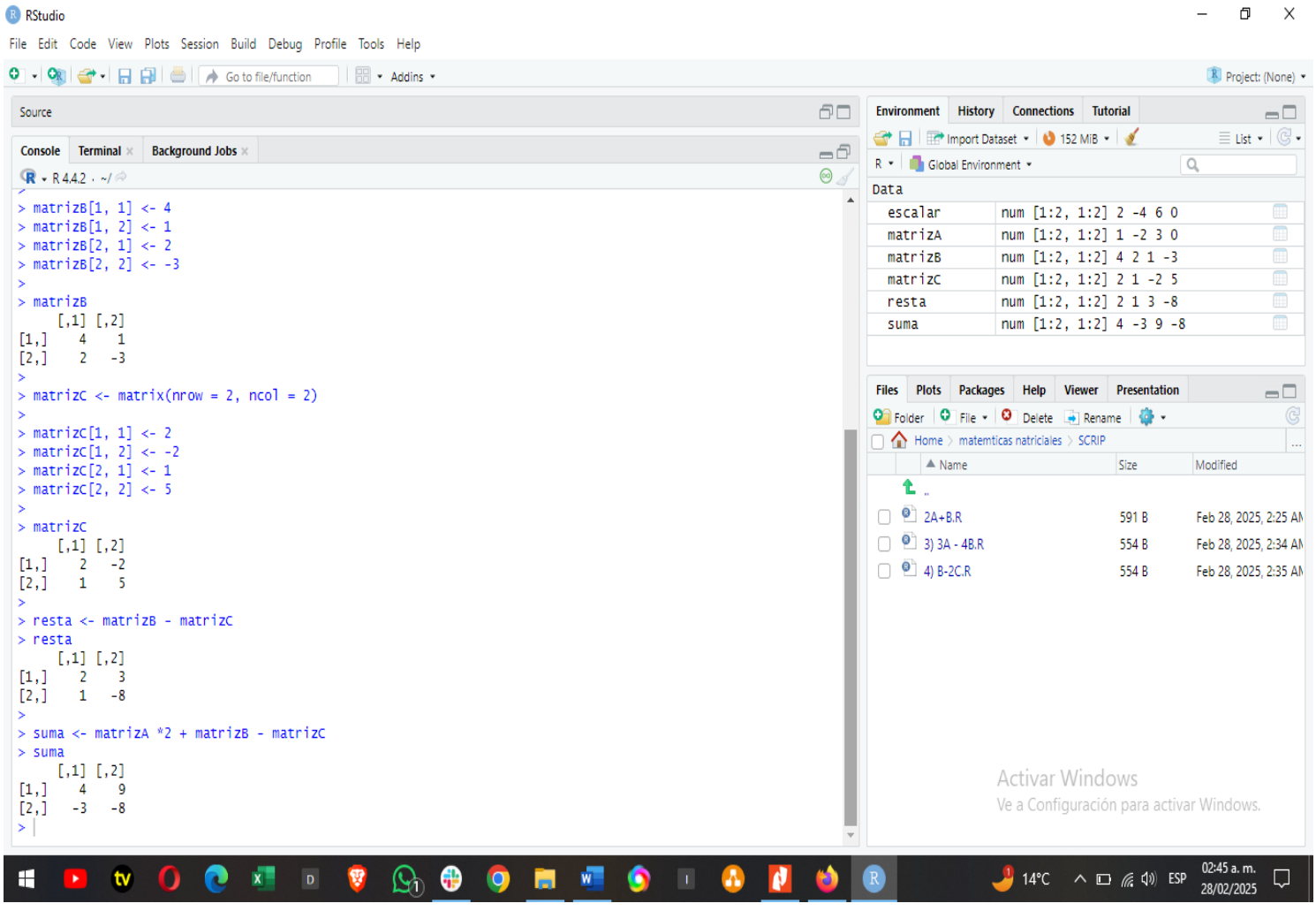
3) 3A – 4B


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
R 4.4.2 · ~/
> matrizA
[,1] [,2]
[1,] 1 3
[2,] -2 0
> escalar <- matrizA * 3
> escalar
[,1] [,2]
[1,] 3 9
[2,] -6 0
> matrizB <- matrix(nrow = 2, ncol = 2)
> matrizB[1, 1] <- 4
> matrizB[1, 2] <- 1
> matrizB[2, 1] <- 2
> matrizB[2, 2] <- -3
> matrizB
[,1] [,2]
[1,] 4 1
[2,] 2 -3
> escalar <- matrizB * 4
> escalar
[,1] [,2]
[1,] 16 4
[2,] 8 -12
> resta <- matrizA * 3 - matrizB * 4
> resta
[,1] [,2]
[1,] -13 5
[2,] -14 12
Environment History Connections Tutorial
Import Dataset 151 MiB List
Global Environment
Data
escalar num [1:2, 1:2] 16 8 4 -12
matrizA num [1:2, 1:2] 1 -2 3 0
matrizB num [1:2, 1:2] 4 2 1 -3
resta num [1:2, 1:2] -13 -14 5 12
Files Plots Packages Help Viewer Presentation
Folder File Delete Rename
Home matemticas natriciales SCRIP
Name Size Modified
2A+B.R 542 B Feb 28, 2025, 1:53 AM
Activar Windows
Ve a Configuración para activar Windows.
La P... ESP 02:24 a. m. 28/02/2025

4) B – 2C


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
R 4.4.2 · ~/
> matrizB[1, 1] <- 4
> matrizB[1, 2] <- 1
> matrizB[2, 1] <- 2
> matrizB[2, 2] <- -3
>
> matrizB
[,1] [,2]
[1,] 4 1
[2,] 2 -3
>
> matrizC <- matrix(nrow = 2, ncol = 2)
>
> matrizC[1, 1] <- 2
> matrizC[1, 2] <- -2
> matrizC[2, 1] <- 1
> matrizC[2, 2] <- 5
>
> matrizC
[,1] [,2]
[1,] 2 -2
[2,] 1 5
>
> escalar <- matrizC * 2
> escalar
[,1] [,2]
[1,] 4 -4
[2,] 2 10
>
> resta <- matrizB - matrizC * 2
> resta
[,1] [,2]
[1,] 0 5
[2,] 0 -13
>
Environment History Connections Tutorial
Import Dataset 152 MiB List
R Global Environment
Data
escalar num [1:2, 1:2] 4 2 -4 10
matrizB num [1:2, 1:2] 4 2 1 -3
matrizC num [1:2, 1:2] 2 1 -2 5
resta num [1:2, 1:2] 0 0 5 -13
Files Plots Packages Help Viewer Presentation
Folder File Delete Rename
Home matemticas natriciales SCRIP
Name Size Modified
2A+B.R 591 B Feb 28, 2025, 2:25 AM
3) 3A - 4B.R 591 B Feb 28, 2025, 2:28 AM
Activar Windows
Ve a Configuración para activar Windows.
JPY/...
ESP
02:33 a. m.
28/02/2025

5) 2A + (B-C)


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
Source
Console
Terminal
Background Jobs
R 4.4.2 · ~/
> matrizB[1, 1] <- 4
> matrizB[1, 2] <- 1
> matrizB[2, 1] <- 2
> matrizB[2, 2] <- -3
>
> matrizB
[,1] [,2]
[1,] 4 1
[2,] 2 -3
>
> matrizC <- matrix(nrow = 2, ncol = 2)
>
> matrizC[1, 1] <- 2
> matrizC[1, 2] <- -2
> matrizC[2, 1] <- 1
> matrizC[2, 2] <- 5
>
> matrizC
[,1] [,2]
[1,] 2 -2
[2,] 1 5
>
> resta <- matrizB - matrizC
> resta
[,1] [,2]
[1,] 2 3
[2,] 1 -8
>
> suma <- matrizA *2 + matrizB - matrizC
> suma
[,1] [,2]
[1,] 4 9
[2,] -3 -8
>
Environment
History
Connections
Tutorial
Import Dataset
152 MiB
List
R
Global Environment
Data
escalar num [1:2, 1:2] 2 -4 6 0
matrizA num [1:2, 1:2] 1 -2 3 0
matrizB num [1:2, 1:2] 4 2 1 -3
matrizC num [1:2, 1:2] 2 1 -2 5
resta num [1:2, 1:2] 2 1 3 -8
suma num [1:2, 1:2] 4 -3 9 -8
Files
Plots
Packages
Help
Viewer
Presentation
Folder
File
Delete
Rename
Home
matemticas natriciales
SCRIP
Name
Size
Modified
2A+B.R 591 B Feb 28, 2025, 2:25 AM
3) 3A - 4B.R 554 B Feb 28, 2025, 2:34 AM
4) B-2C.R 554 B Feb 28, 2025, 2:35 AM
Activar Windows
Ve a Configuración para activar Windows.
14°C
ESP
02:45 a. m.
28/02/2025

1 Sean las matrices

$$A = \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix}$$

$$B = \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix}$$

$$C = \begin{bmatrix} 2 & -2 \\ 1 & 5 \end{bmatrix}$$

Efectuar las siguientes operaciones

1) $5A$ 2) $2A+B$ 3) $3A-4B$ 4) $B-2C$ 5) $2A+(B-C)$ =

1) $5A = 5 * \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix} = \begin{bmatrix} 5 & 15 \\ -10 & 0 \end{bmatrix}$

2) $2A = 2 * \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix} = \begin{bmatrix} 2 & 6 \\ -4 & 0 \end{bmatrix} + \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix} = \begin{bmatrix} 6 & 7 \\ -2 & -3 \end{bmatrix}$

3) $3A = 3 * \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix} = \begin{bmatrix} 3 & 9 \\ -6 & 0 \end{bmatrix} - 4B = 4 * \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix} = \begin{bmatrix} 16 & 4 \\ 8 & -12 \end{bmatrix}$

$$\begin{bmatrix} 3 & 9 \\ -6 & 0 \end{bmatrix} - \begin{bmatrix} 16 & 4 \\ 8 & -12 \end{bmatrix} = \begin{bmatrix} 3-16 & 9-4 \\ (-6)-8 & 0-(-12) \end{bmatrix} = \begin{bmatrix} -13 & 5 \\ -14 & 12 \end{bmatrix}$$

D M A

4) $B = \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix}$ $2C = 2 * \begin{bmatrix} 2 & -2 \\ 1 & 5 \end{bmatrix} = \begin{bmatrix} 4 & -4 \\ 2 & 10 \end{bmatrix}$

$B = \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix} - \begin{bmatrix} 4 & -4 \\ 2 & 10 \end{bmatrix} = \begin{bmatrix} 4-4 & 1-(-4) \\ 2-2 & (-3)-10 \end{bmatrix} = \begin{bmatrix} 0 & 5 \\ 0 & -13 \end{bmatrix}$

5) $2A = 2 * \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix} = \begin{bmatrix} 2 & 6 \\ -4 & 0 \end{bmatrix} + \begin{bmatrix} 2 & 3 \\ 1 & -0 \\ -0 \end{bmatrix} = \begin{bmatrix} 4 & 9 \\ -3 & -0 \end{bmatrix}$

$(B-C) = \begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix} - \begin{bmatrix} 2 & -2 \\ 1 & 5 \end{bmatrix} = \begin{bmatrix} 2 & 3 \\ 1 & -0 \\ -0 \end{bmatrix}$.

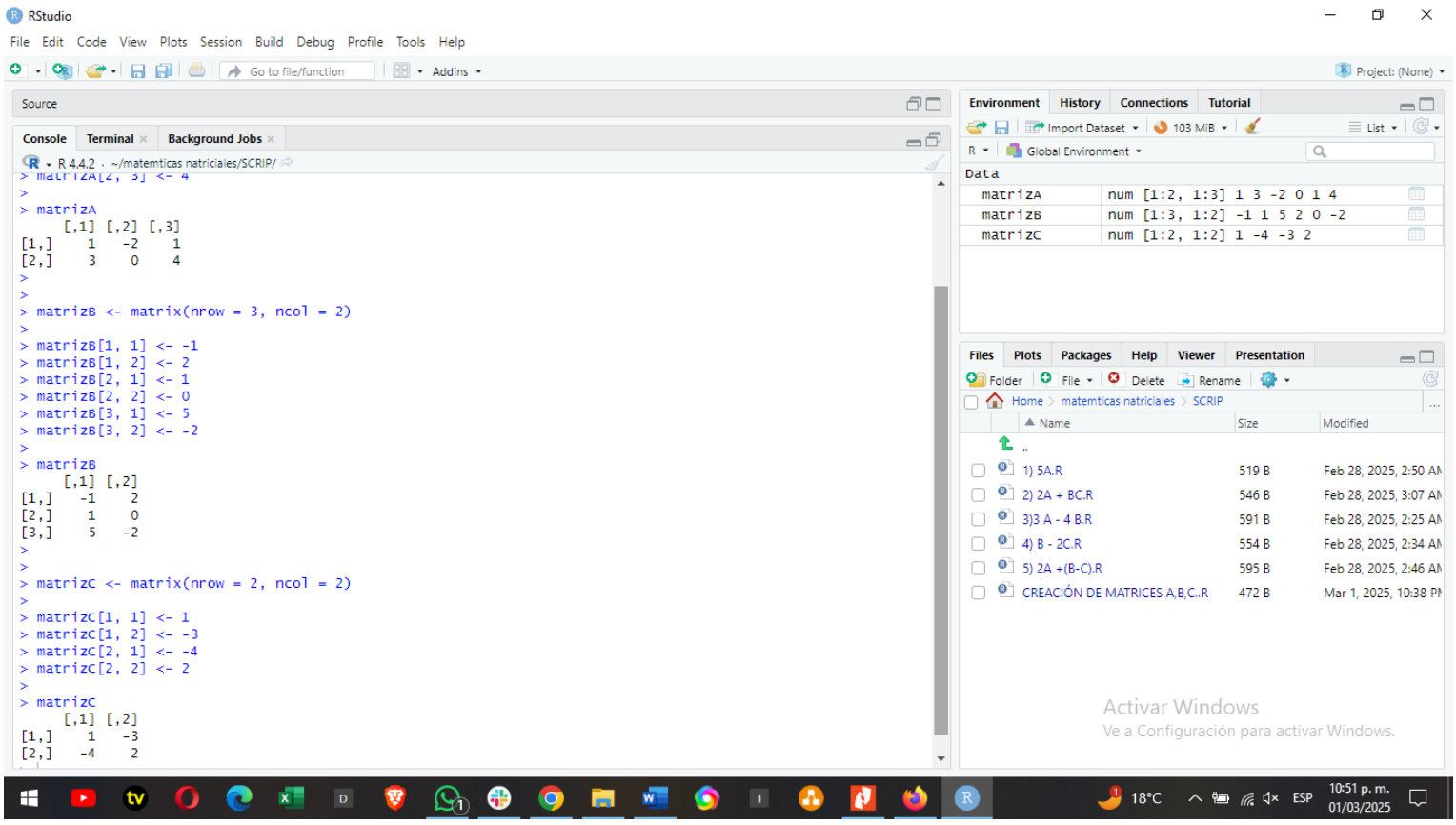
4.2 Matriz 2

2) Sean las matrices:

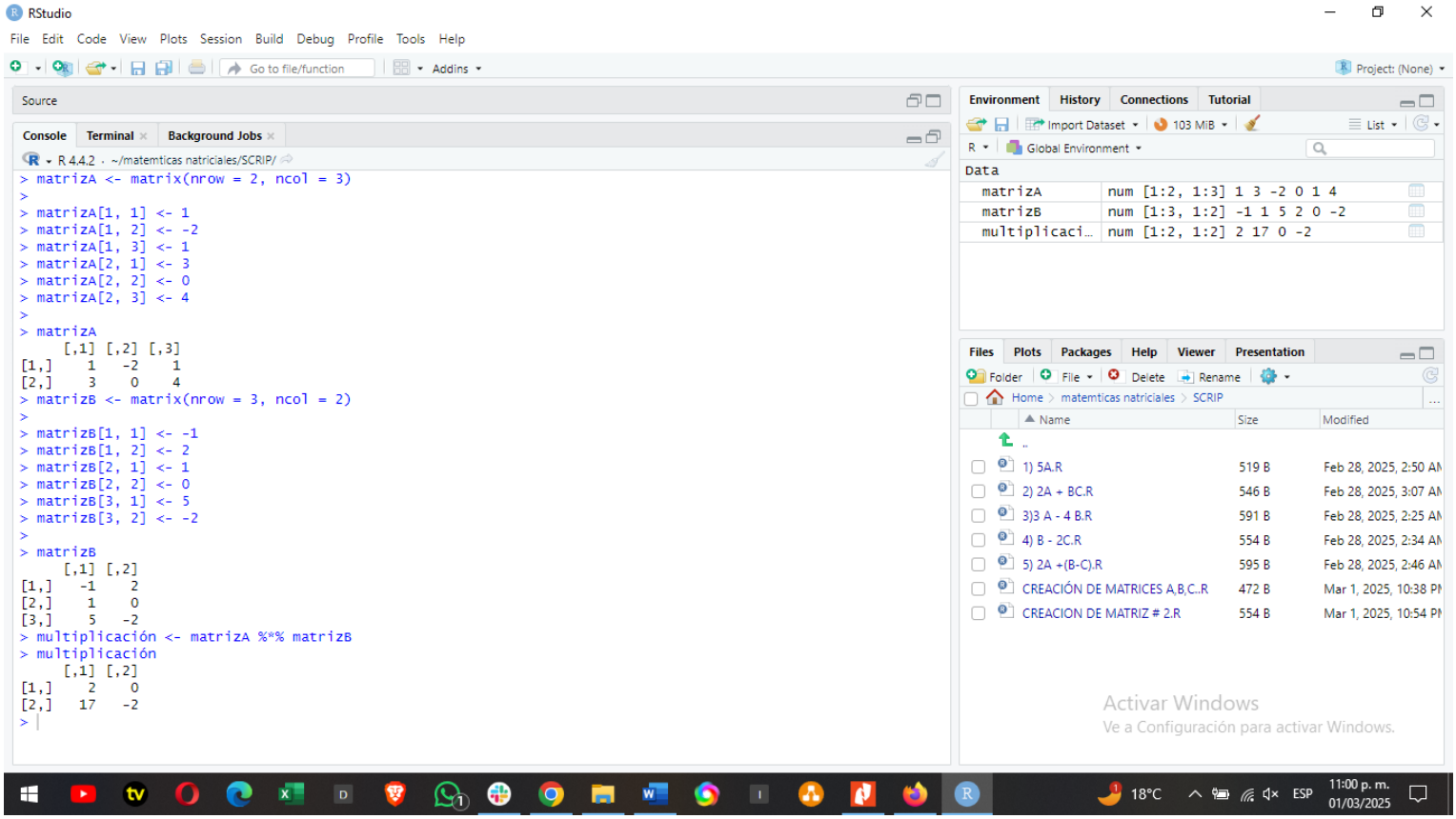
$$A = \begin{bmatrix} 1 & -2 & 1 \\ 3 & 0 & 4 \end{bmatrix} \qquad B = \begin{bmatrix} -1 & 2 \\ 1 & 0 \\ 5 & -2 \end{bmatrix} \qquad C = \begin{bmatrix} 1 & 3 \\ -4 & 2 \end{bmatrix}$$

Tachado

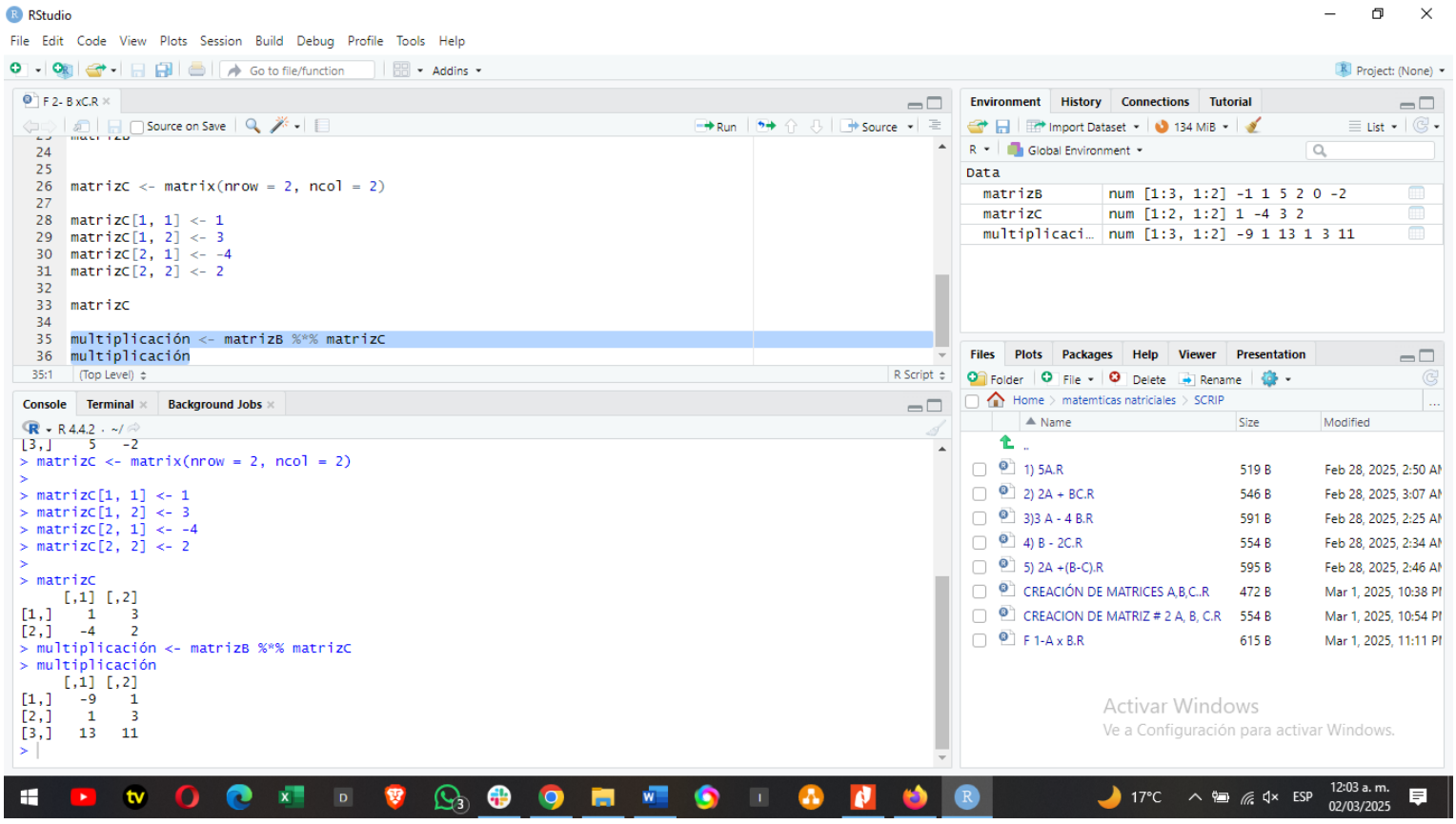
Ejecutar las siguientes operaciones: 1) A*B 2) B*C 3) C*A



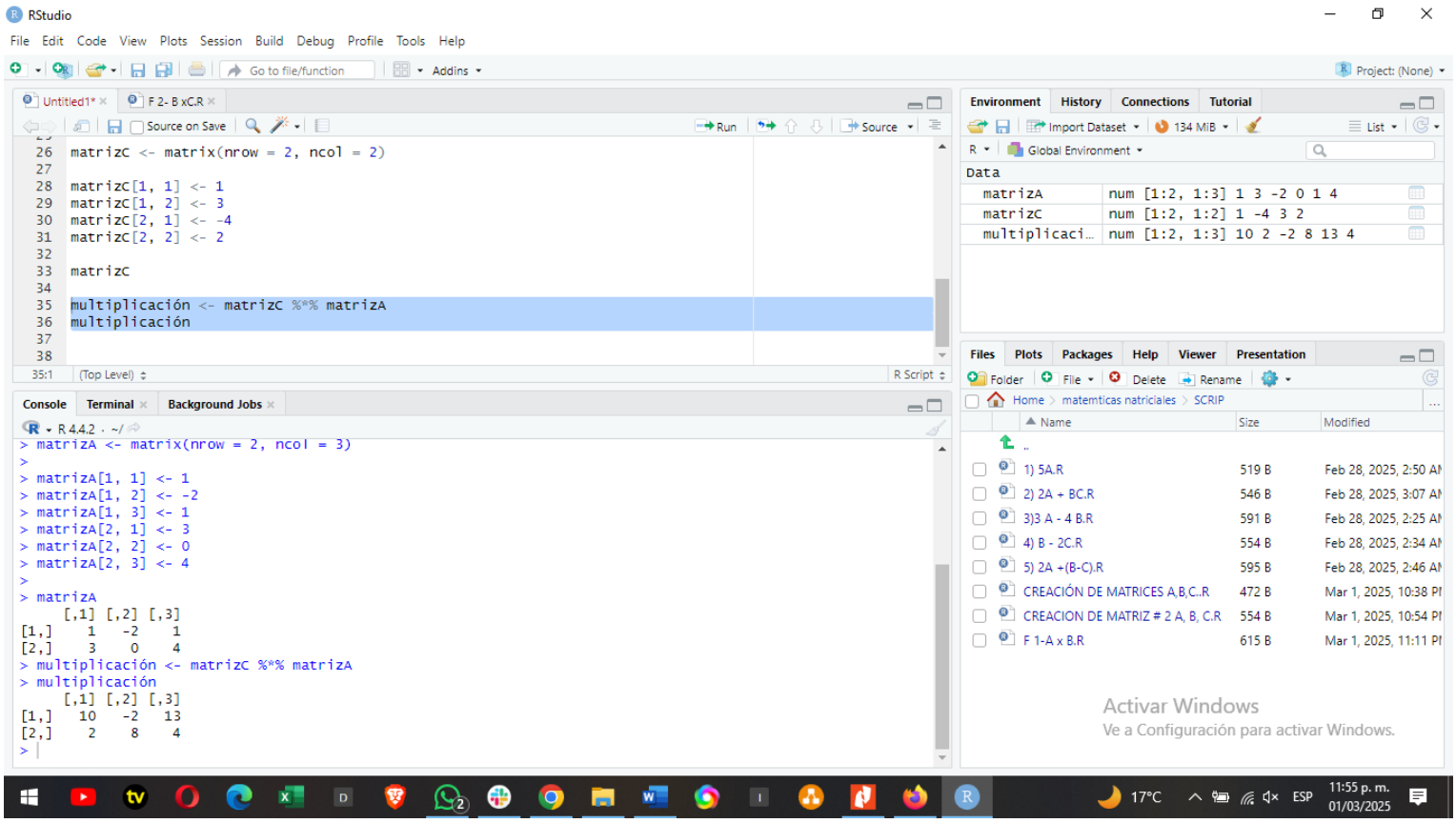
1) A * B


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
R 4.4.2 · ~/matemticas natriciales/SCRIP/
> matrizA <- matrix(nrow = 2, ncol = 3)
>
> matrizA[1, 1] <- 1
> matrizA[1, 2] <- -2
> matrizA[1, 3] <- 1
> matrizA[2, 1] <- 3
> matrizA[2, 2] <- 0
> matrizA[2, 3] <- 4
>
> matrizA
[,1] [,2] [,3]
[1,] 1 -2 1
[2,] 3 0 4
> matrizB <- matrix(nrow = 3, ncol = 2)
>
> matrizB[1, 1] <- -1
> matrizB[1, 2] <- 2
> matrizB[2, 1] <- 1
> matrizB[2, 2] <- 0
> matrizB[3, 1] <- 5
> matrizB[3, 2] <- -2
>
> matrizB
[,1] [,2]
[1,] -1 2
[2,] 1 0
[3,] 5 -2
> multiplicación <- matrizA %*% matrizB
> multiplicación
[,1] [,2]
[1,] 2 0
[2,] 17 -2
>
Environment History Connections Tutorial
Import Dataset 103 MiB List
R Global Environment
Data
matrizA num [1:2, 1:3] 1 3 -2 0 1 4
matrizB num [1:3, 1:2] -1 1 5 2 0 -2
multiplicaci... num [1:2, 1:2] 2 17 0 -2
Files Plots Packages Help Viewer Presentation
Folder File Delete Rename
Home matemticas natriciales SCRIP
Name Size Modified
1) 5A.R 519 B Feb 28, 2025, 2:50 AM
2) 2A + BC.R 546 B Feb 28, 2025, 3:07 AM
3)3 A - 4 B.R 591 B Feb 28, 2025, 2:25 AM
4) B - 2C.R 554 B Feb 28, 2025, 2:34 AM
5) 2A +(B-C).R 595 B Feb 28, 2025, 2:46 AM
CREACIÓN DE MATRICES A,B,C..R 472 B Mar 1, 2025, 10:38 PM
CREACION DE MATRIZ # 2.R 554 B Mar 1, 2025, 10:54 PM
Activar Windows
Ve a Configuración para activar Windows.
18°C
ESP
11:00 p. m.
01/03/2025

2) B * C


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
matrizC <- matrix(nrow = 2, ncol = 2)
matrizC[1, 1] <- 1
matrizC[1, 2] <- 3
matrizC[2, 1] <- -4
matrizC[2, 2] <- 2
matrizC
multiplicación <- matrizB %*% matrizC
multiplicación
> matrizC <- matrix(nrow = 2, ncol = 2)
> matrizC[1, 1] <- 1
> matrizC[1, 2] <- 3
> matrizC[2, 1] <- -4
> matrizC[2, 2] <- 2
> matrizC
[1,] 1 3
[2,] -4 2
> multiplicación <- matrizB %*% matrizC
> multiplicación
[1,] -9 1
[2,] 1 3
[3,] 13 11
Data
matrizB num [1:3, 1:2] -1 1 5 2 0 -2
matrizC num [1:2, 1:2] 1 -4 3 2
multiplicaci... num [1:3, 1:2] -9 1 13 1 3 11
1) 5A.R
2) 2A + BC.R
3)3 A - 4 B.R
4) B - 2C.R
5) 2A +(B-C).R
CREACIÓN DE MATRICES A,B,C..R
CREACION DE MATRIZ # 2 A, B, C.R
F 1-A x B.R
Activar Windows
Ve a Configuración para activar Windows.
17°C
ESP
12:03 a. m.
02/03/2025

3) C*A


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Untitled1*
F 2- B xC.R
matrizC <- matrix(nrow = 2, ncol = 2)
matrizC[1, 1] <- 1
matrizC[1, 2] <- 3
matrizC[2, 1] <- -4
matrizC[2, 2] <- 2
matrizC
multiplicación <- matrizC %*% matrizA
multiplicación
Environment History Connections Tutorial
Data
matrizA num [1:2, 1:3] 1 3 -2 0 1 4
matrizC num [1:2, 1:2] 1 -4 3 2
multiplicaci... num [1:2, 1:3] 10 2 -2 8 13 4
Files Plots Packages Help Viewer Presentation
Home > matemticas natriciales > SCRIP
Name Size Modified
1) 5A.R 519 B Feb 28, 2025, 2:50 AM
2) 2A + BC.R 546 B Feb 28, 2025, 3:07 AM
3)3 A - 4 B.R 591 B Feb 28, 2025, 2:25 AM
4) B - 2C.R 554 B Feb 28, 2025, 2:34 AM
5) 2A +(B-C).R 595 B Feb 28, 2025, 2:46 AM
CREACIÓN DE MATRICES A,B,C..R 472 B Mar 1, 2025, 10:38 PM
CREACION DE MATRIZ # 2 A, B, C.R 554 B Mar 1, 2025, 10:54 PM
F 1-A x B.R 615 B Mar 1, 2025, 11:11 PM
Console Terminal Background Jobs
R 4.4.2 · ~/
> matrizA <- matrix(nrow = 2, ncol = 3)
> matrizA[1, 1] <- 1
> matrizA[1, 2] <- -2
> matrizA[1, 3] <- 1
> matrizA[2, 1] <- 3
> matrizA[2, 2] <- 0
> matrizA[2, 3] <- 4
> matrizA
[,1] [,2] [,3]
[1,] 1 -2 1
[2,] 3 0 4
> multiplicación <- matrizC %*% matrizA
> multiplicación
[,1] [,2] [,3]
[1,] 10 -2 13
[2,] 2 8 4
Activar Windows
Ve a Configuración para activar Windows.
17°C ESP 11:55 p. m. 01/03/2025

2) Sean las matrices:

$$A=\begin{bmatrix}1 & -2 & 1\\ 3 & 0 & 4\end{bmatrix} \quad B=\begin{bmatrix}-1 & 2\\ 1 & 0\\ 5 & -2\end{bmatrix} \quad C=\begin{bmatrix}1 & 3\\ -4 & 2\end{bmatrix}$$

Ejecutar las siguientes operaciones:

1) A*B 2) B*C 3) C*A:

$-1 + -2 = -3 + 5 = 2$

1) $A=\begin{bmatrix}1 & -2 & 1\\ 3 & 0 & 4\end{bmatrix} * B=\begin{bmatrix}-1 & 2\\ 1 & 0\\ 5 & -2\end{bmatrix} = \begin{bmatrix}(1*-1 + -2*1 + 1*5)\\ (3*-1 + 0*1 + 4*5)\end{bmatrix}$

$-3 + 0 = -3 + 20 = 17$

$2 + -0 = -2 + -2 = 0$

$\begin{bmatrix}(1*2 + -2*0 + 1*-2)\\ (3*2 + 0*0 + 4*-2)\end{bmatrix} \quad R=\begin{bmatrix}2 & 0\\ 17 & -2\end{bmatrix}$

$6 + 0 = 6 + -8 = -2$

2) $B=\begin{bmatrix}-1 & 2\\ 1 & 0\\ 5 & -2\end{bmatrix} * C=\begin{bmatrix}1 & 3\\ -4 & 2\end{bmatrix} = \begin{bmatrix}(-1 + -8)\\ (1 + 0)\\ (5 + 8)\end{bmatrix} = \begin{bmatrix}(3 + 4)\\ (3 + 0)\\ (15 + -4)\end{bmatrix} R\begin{bmatrix}-9 & 1\\ 1 & 3\\ 13 & 11\end{bmatrix}$

3) $C=\begin{bmatrix}1 & 3\\ -4 & 2\end{bmatrix} * A=\begin{bmatrix}1 & -2 & 1\\ 3 & 0 & 4\end{bmatrix} = (1+9)(-2+0)(1+12) = (-4+6)(-8+0)(-4+8)$

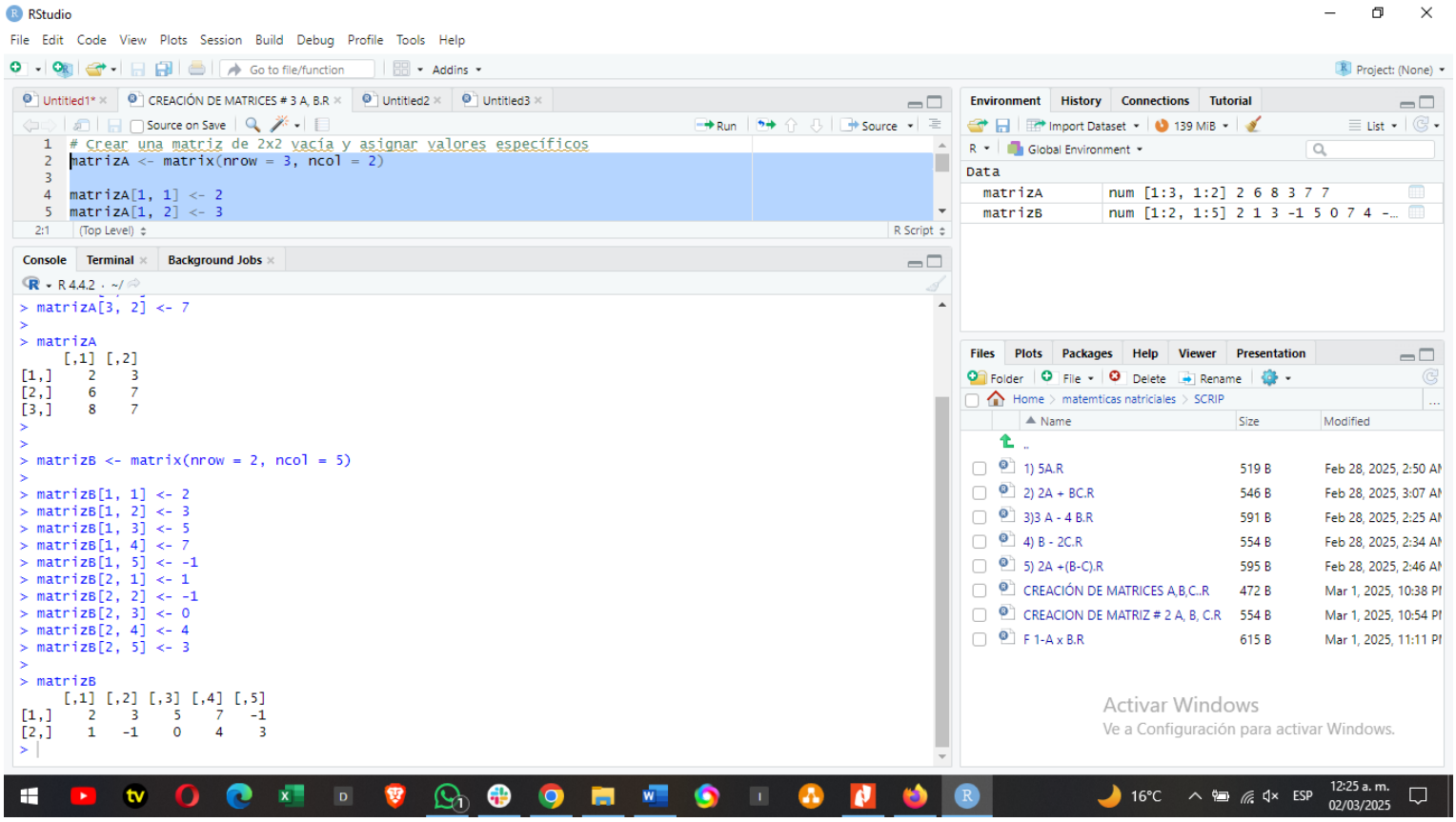
$R=\begin{bmatrix}10 & -2 & 13\\ 2 & -8 & 4\end{bmatrix}$

4.3 Matriz 3

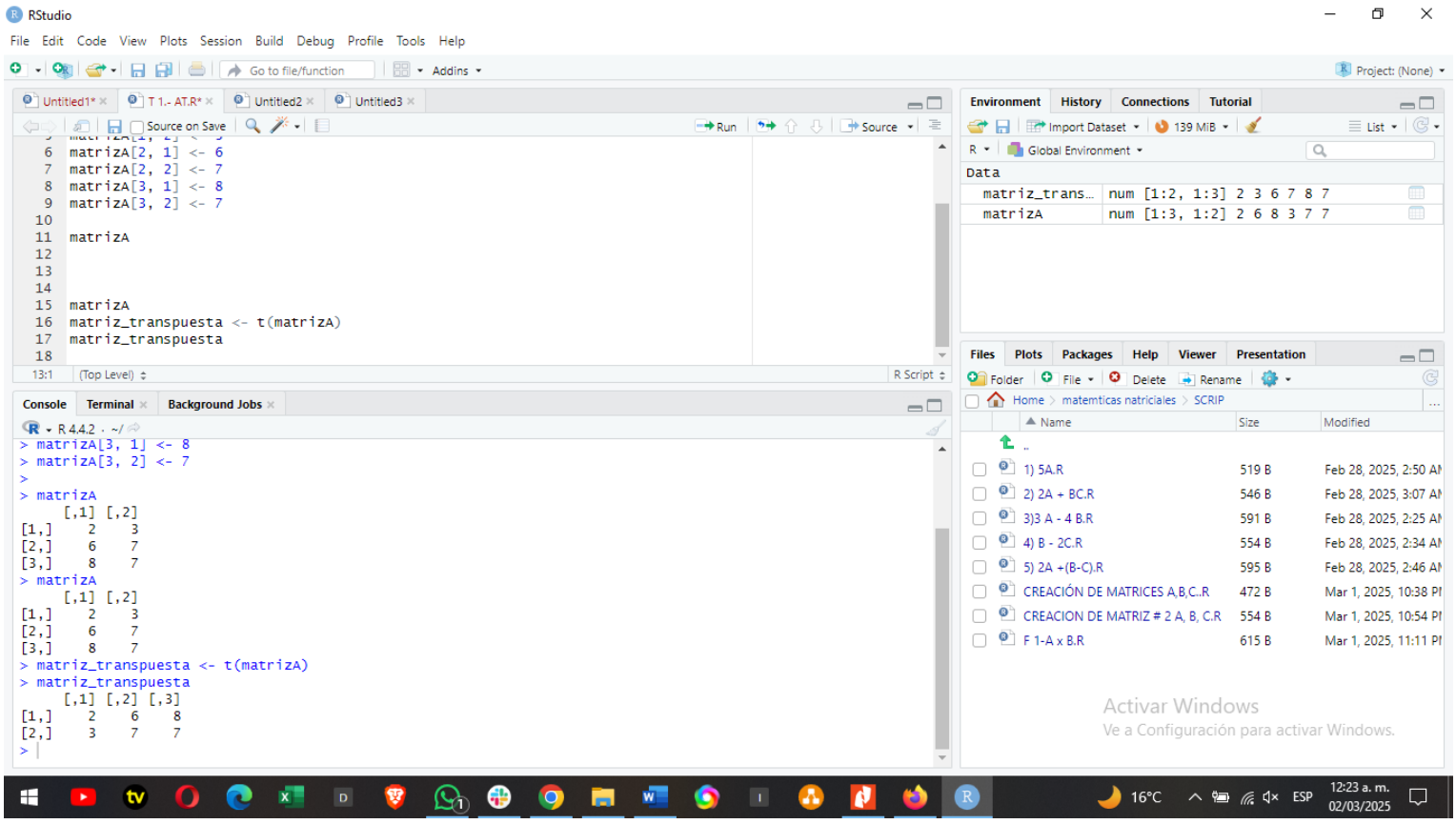
3) Sean las matrices:

$$A = \begin{bmatrix} 2 & 3 \\ 6 & 7 \\ 8 & 7 \end{bmatrix} \qquad B = \begin{bmatrix} 2 & 3 & 5 & 7 & -1 \\ 1 & -1 & 0 & 4 & 3 \end{bmatrix}$$

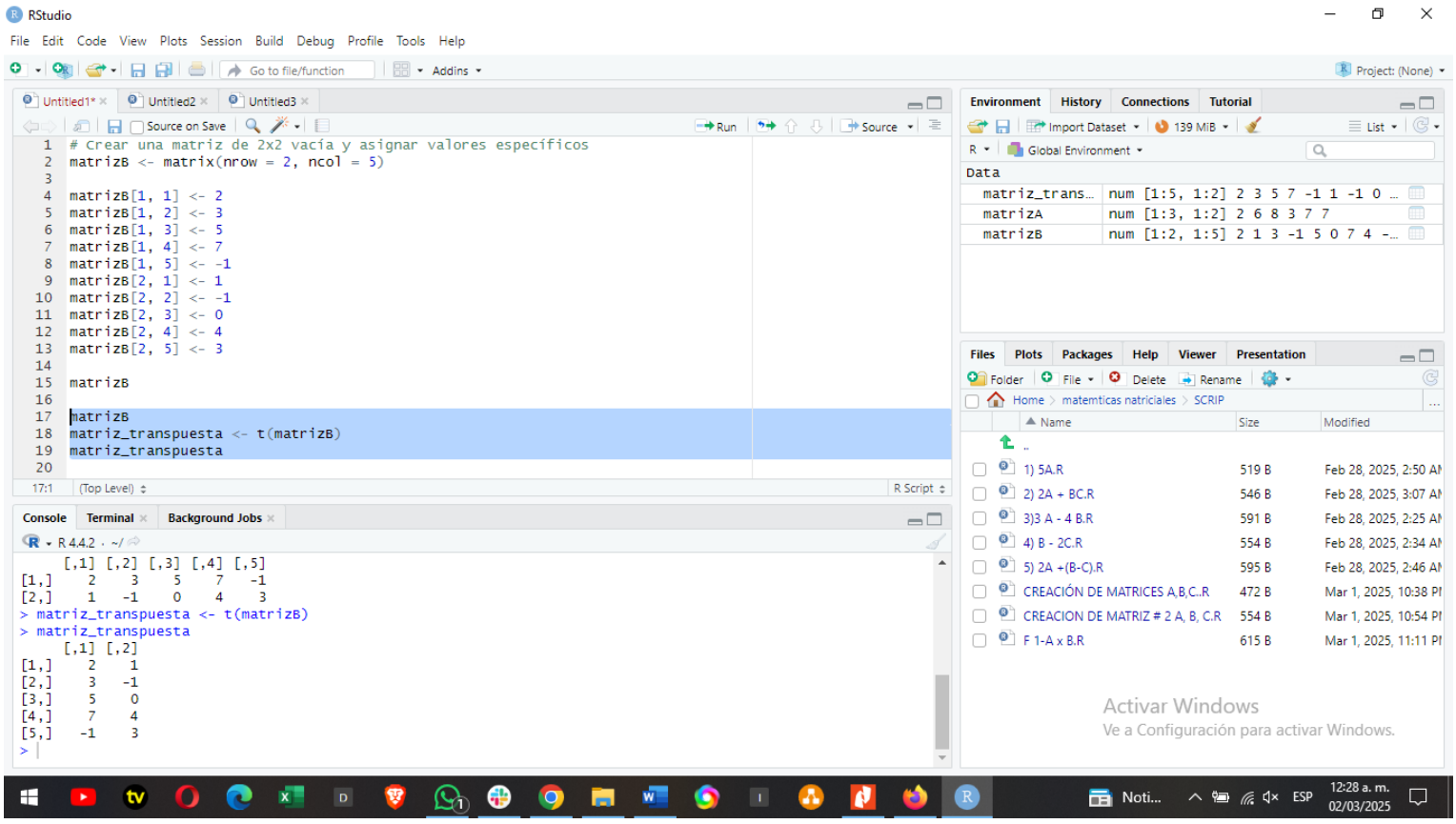
Ejecutar las siguientes operaciones: 1) A^T 2) B^T 3) B^T*A 4) A^T*B



1) AT


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Untitled1* Untitled2 Untitled3
matrizA[2, 1] <- 6
matrizA[2, 2] <- 7
matrizA[3, 1] <- 8
matrizA[3, 2] <- 7
matrizA
matrizA
matriz_transpuesta <- t(matrizA)
matriz_transpuesta
Console Terminal Background Jobs
> matrizA[3, 1] <- 8
> matrizA[3, 2] <- 7
> matrizA
[,1] [,2]
[1,] 2 3
[2,] 6 7
[3,] 8 7
> matrizA
[,1] [,2]
[1,] 2 3
[2,] 6 7
[3,] 8 7
> matriz_transpuesta <- t(matrizA)
> matriz_transpuesta
[,1] [,2] [,3]
[1,] 2 6 8
[2,] 3 7 7
Environment History Connections Tutorial
Data
matriz_trans... num [1:2, 1:3] 2 3 6 7 8 7
matrizA num [1:3, 1:2] 2 6 8 3 7 7
Files Plots Packages Help Viewer Presentation
1) 5A.R
2) 2A + BC.R
3)3 A - 4 B.R
4) B - 2C.R
5) 2A +(B-C).R
CREACIÓN DE MATRICES A,B,C..R
CREACION DE MATRIZ # 2 A, B, C.R
F 1-A x B.R
Activar Windows
Ve a Configuración para activar Windows.
16°C
ESP
12:23 a. m.
02/03/2025

2) BT


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Untitled1* Untitled2 Untitled3
# Crear una matriz de 2x2 vacía y asignar valores específicos
matrizB <- matrix(nrow = 2, ncol = 5)
matrizB[1, 1] <- 2
matrizB[1, 2] <- 3
matrizB[1, 3] <- 5
matrizB[1, 4] <- 7
matrizB[1, 5] <- -1
matrizB[2, 1] <- 1
matrizB[2, 2] <- -1
matrizB[2, 3] <- 0
matrizB[2, 4] <- 4
matrizB[2, 5] <- 3
matrizB
matrizB
matriz_transpuesta <- t(matrizB)
matriz_transpuesta
Environment History Connections Tutorial
Data
matriz_trans… num [1:5, 1:2] 2 3 5 7 -1 1 -1 0 …
matrizA num [1:3, 1:2] 2 6 8 3 7 7
matrizB num [1:2, 1:5] 2 1 3 -1 5 0 7 4 -…
Files Plots Packages Help Viewer Presentation
1) 5A.R 519 B Feb 28, 2025, 2:50 AM
2) 2A + BC.R 546 B Feb 28, 2025, 3:07 AM
3)3 A - 4 B.R 591 B Feb 28, 2025, 2:25 AM
4) B - 2C.R 554 B Feb 28, 2025, 2:34 AM
5) 2A +(B-C).R 595 B Feb 28, 2025, 2:46 AM
CREACIÓN DE MATRICES A,B,C..R 472 B Mar 1, 2025, 10:38 PM
CREACION DE MATRIZ # 2 A, B, C.R 554 B Mar 1, 2025, 10:54 PM
F 1-A x B.R 615 B Mar 1, 2025, 11:11 PM
Activar Windows
Ve a Configuración para activar Windows.
Console Terminal Background Jobs
R 4.4.2 · ~/
[,1] [,2] [,3] [,4] [,5]
[1,] 2 3 5 7 -1
[2,] 1 -1 0 4 3
> matriz_transpuesta <- t(matrizB)
> matriz_transpuesta
[,1] [,2]
[1,] 2 1
[2,] 3 -1
[3,] 5 0
[4,] 7 4
[5,] -1 3
ESP
12:28 a. m.
02/03/2025

3) Sean las matrices:

$$A) = \begin{bmatrix} 2 & 3 \\ 6 & 7 \\ 8 & 7 \end{bmatrix} \qquad B) = \begin{bmatrix} 2 & 3 & 5 & 7 & -1 \\ 1 & -1 & 0 & 4 & 3 \end{bmatrix}$$

Calcular las siguientes operaciones:

1) A^T 2) B^T 3) $B^T * A$ 4) $A^T * B$

1) $A = \begin{bmatrix} 2 & 3 \\ 6 & 7 \\ 8 & 7 \end{bmatrix} = A^T = \begin{bmatrix} 2 & 6 & 8 \\ 3 & 7 & 7 \end{bmatrix}$

2) $B = \begin{bmatrix} 2 & 3 & 5 & 7 & -1 \\ 1 & -1 & 0 & 4 & 3 \end{bmatrix} = B^T = \begin{bmatrix} 2 & 1 \\ 3 & -1 \\ 5 & 0 \\ 7 & 4 \\ -1 & 3 \end{bmatrix}$

3) $B = \begin{bmatrix} 2 & 3 & 5 & 7 & -1 \\ 1 & -1 & 0 & 4 & 3 \end{bmatrix} = B^T = \begin{bmatrix} 2 & 1 \\ 3 & -1 \\ 5 & 0 \\ 7 & 4 \\ -1 & 3 \end{bmatrix} * A = \begin{bmatrix} 2 & 3 \\ 6 & 7 \\ 8 & 7 \end{bmatrix} = X$

4) $A = \begin{bmatrix} 2 & 3 \\ 6 & 7 \\ 8 & 7 \end{bmatrix} = A^T = \begin{bmatrix} 2 & 6 & 8 \\ 3 & 7 & 7 \end{bmatrix} * B = \begin{bmatrix} 2 & 3 & 5 & 7 & -1 \\ 1 & -1 & 0 & 4 & 3 \end{bmatrix} = X$

5 Conclusión

En esta actividad aprendimos a crear matrices y también a resolver estas mimas matrices en el programa RStudio, lo cual esta herramienta es una gran ayuda a conseguir los resultados de dichas matrices a consultar.

6 REFERENCIAS

Video conferencing, web conferencing, online meetings, screen sharing - Zoom. (s. f.-b). https://academiaglobal-mx.zoom.us/

Video conferencing, web conferencing, online meetings, screen sharing - Zoom. (s. f.). https://academiaglobal-mx.zoom.us/