¡Felicitaciones! ¡Aprobaste!

Calificación recibida 100 %

Para Aprobar 80 % o más

Ir al siguiente elemento

1. What can matrices contain? **1 / 1 punto**

- ○ Dogs
- ◉ Collection of feature vectors for dogs

Correcto

2. What does linear algebra study? **1 / 1 punto**

- ☑ linear objects and computations

Correcto

- ☐ complexity of computations on strings
- ☑ linear equations

Correcto

2. What does linear algebra study? **1 / 1 punto**

- [x] linear objects and computations

  Correcto

- [ ] complexity of computations on strings

- [x] linear equations

  Correcto

- [x] matrix operations

  Correcto

3. Compute matrix-matrix product **1 / 1 punto**

$$\begin{bmatrix} 1 & 5 \\ 3 & 4 \end{bmatrix} \cdot \begin{bmatrix} 5 & 7 \\ 0 & 4 \end{bmatrix}$$

- ○ product =

$$\begin{bmatrix} -5 & 27 \\ 7 & 37 \end{bmatrix}$$

3. Compute matrix-matrix product **1 / 1 pun**

$$\begin{bmatrix} 1 & 5 \\ 3 & 4 \end{bmatrix} \cdot \begin{bmatrix} 5 & 7 \\ 0 & 4 \end{bmatrix}$$

○ product =

$$\begin{bmatrix} -5 & 27 \\ 7 & 37 \end{bmatrix}$$

○ None of the above

○ product =

$$\begin{bmatrix} 1 & 15 \\ 7 & 37 \end{bmatrix}$$

◉ product =

$$\begin{bmatrix} 5 & 27 \\ 15 & 37 \end{bmatrix}$$

Linear combinations

Cuestionario Práctico • 3 total de puntos

1. Write the nutritional values matrix for milk and cereals knowing that 1 cup of milk contains 16 g of carbs, 14 g of protein, 170 g of fat, and 1 cup of cereals contains 98 g of protein, 42 g of fat, 60 g of carbs. Note the order of carbs/fat/protein values in the matrix might differ from what is stated here.

1 / 1 punto

○ table of nutrition values =

$$\begin{bmatrix} 98 & 60 & 42 \\ 170 & 16 & 14 \end{bmatrix}$$

○ table of nutrition values =

$$\begin{bmatrix} 60 & 98 & 42 \\ 170 & 16 & 14 \end{bmatrix}$$

◉ table of nutrition values =

$$\begin{bmatrix} 16 & 170 & 14 \\ 60 & 42 & 98 \end{bmatrix}$$

2. To find nutritional values of our breakfast, we can compute a dot product v*M, where v is a "portion" vector of food ingredients and M is a matrix of nutritional values for each food ingredient.

1 / 1 punto

$$M = \begin{array}{c} \begin{matrix} \text{carbs} & \text{fat} & \text{protein} \end{matrix} \\ \begin{bmatrix} 60 & 98 & 42 \\ 170 & 16 & 14 \end{bmatrix} \end{array} \begin{matrix} \\ \text{milk} \\ \text{cereals} \end{matrix}$$

Knowing that the breakfast consists of 4 cups of milk and 2 cup of cereals, write vector v.

○ vector of milk & cereal portions =

$$\begin{bmatrix} 2 & 4 \end{bmatrix}$$

◉ vector of milk & cereal portions =

$$\begin{bmatrix} 4 & 2 \end{bmatrix}$$

○ vector of milk & cereal portions =

$$\begin{bmatrix} 2 \\ 4 \end{bmatrix}$$

○ vector of milk & cereal portions =

$$\begin{bmatrix} 4 \\ 2 \end{bmatrix}$$

✓ **Correcto**

3. What is the dimensionality of the product AB? **1 / 1 punto**

$A = \begin{bmatrix} x & x & x \\ x & x & x \\ x & x & x \\ x & x & x \end{bmatrix}$ $B = \begin{bmatrix} x & x & x & x & x \\ x & x & x & x & x \\ x & x & x & x & x \end{bmatrix}$

3. What is the dimensionality of the product AB? **1 / 1 punto**

$$A = \begin{bmatrix} x & x & x \\ x & x & x \\ x & x & x \\ x & x & x \end{bmatrix} \qquad B = \begin{bmatrix} x & x & x & x & x \\ x & x & x & x & x \\ x & x & x & x & x \end{bmatrix}$$

- (●) 4x5
- ( ) 3x3
- ( ) none of the other answers is correct.
- ( ) Not compatible

✓ **Correcto**

product =

$$\begin{bmatrix} 5 & 27 \\ 15 & 37 \end{bmatrix}$$

Correcto

4. What is the dimensionality of matrix A? **1 / 1 punto**

$$\begin{bmatrix} 1 & 2 & -2 & 2 & 5 \\ 4 & 5 & 0 & 3 & 0 \\ 3 & 2 & 3 & 4 & 1 \end{bmatrix}$$

- 3x5
- 5x3
- None of the above

Correcto

Matrix Combinations

Cuestionario Calificado

Vencimiento 4 de jun. 23:59 PDT

Calificación del último envío 100 %

Para Aprobar 80 % o más

Ir al siguiente elemento

1. 1 / 1 punto

age group	9-11a	11a-1p	1p-3p	3p-5p
kids	1	2	4	7
18-25	13	9	13	3
26-40	17	8	12	20
41-64	17	20	2	5
seniors	5	5	17	17

A ← time window

Which of the following expressions yields the vector of visitor counts arriving after 1pm, broken down by age group (expression should yield [5, 16, 32, 7, 34]')?

✓ **Correcto**

2. Regarding this table of visitors to a museum exhibit during one day:

1 / 1 punto

age group	9-11a	11a-1p	1p-3p	3p-5p
kids	1	2	4	7
18-25	13	9	13	3
26-40	17	8	12	20
41-64	17	20	2	5
seniors	5	5	17	17

A

← *time window*

Which of the following expressions yields the vector of adult visitors broken down by time period?

✓ **Correcto**

3. Regarding this table of museum visitors: **1 / 1 punto**

age group	9-11a	11a-1p	1p-3p	3p-5p
kids	1	2	4	7
18-25	13	9	13	3
26-40	17	8	12	20
41-64	17	20	2	5
seniors	5	5	17	17

A

← *time window*

Which of these expressions computes the total number of seniors arriving over the whole day (44)?

Correcto

4. Regarding this table of museum visitors

1 / 1 punto

age group	9-11a	11a-1p	1p-3p	3p-5p
kids	1	2	4	7
18-25	13	9	13	3
26-40	17	8	12	20
41-64	17	20	2	5
seniors	5	5	17	17

A

← *time window*

What is the numerical result of the following expression

$$\begin{bmatrix}0 & 1 & 0 & 0 & 0\end{bmatrix} \cdot A \cdot \begin{bmatrix}0\\1\\0\\0\\0\end{bmatrix}$$

9

Correcto

5. Regarding this table of museum visitors during the day:

1 / 1 punt

age group	9-11a	11a-1p	1p-3p	3p-5p
kids	1	2	4	7
18-25	13	9	13	3
26-40	17	8	12	20
41-64	17	20	2	5
seniors	5	5	17	17

← *time window*

A

what is the result of the following expression?

$$[1 \;\; 1 \;\; 0 \;\; 0 \;\; 0] \cdot A \cdot \begin{bmatrix} 1 \\ 1 \\ 0 \\ 0 \end{bmatrix}$$

25

Correcto