Learning4help by Waqas

Asslam-o-Alaikum! In this file we'll provide you MTH501 quiz 3 2023 Important Finalterm MCQs. Must Prepare Before Finalterm Exams. Verify Answers yourself too. If you found mistake then inform me.

If you found mistake then let us know.

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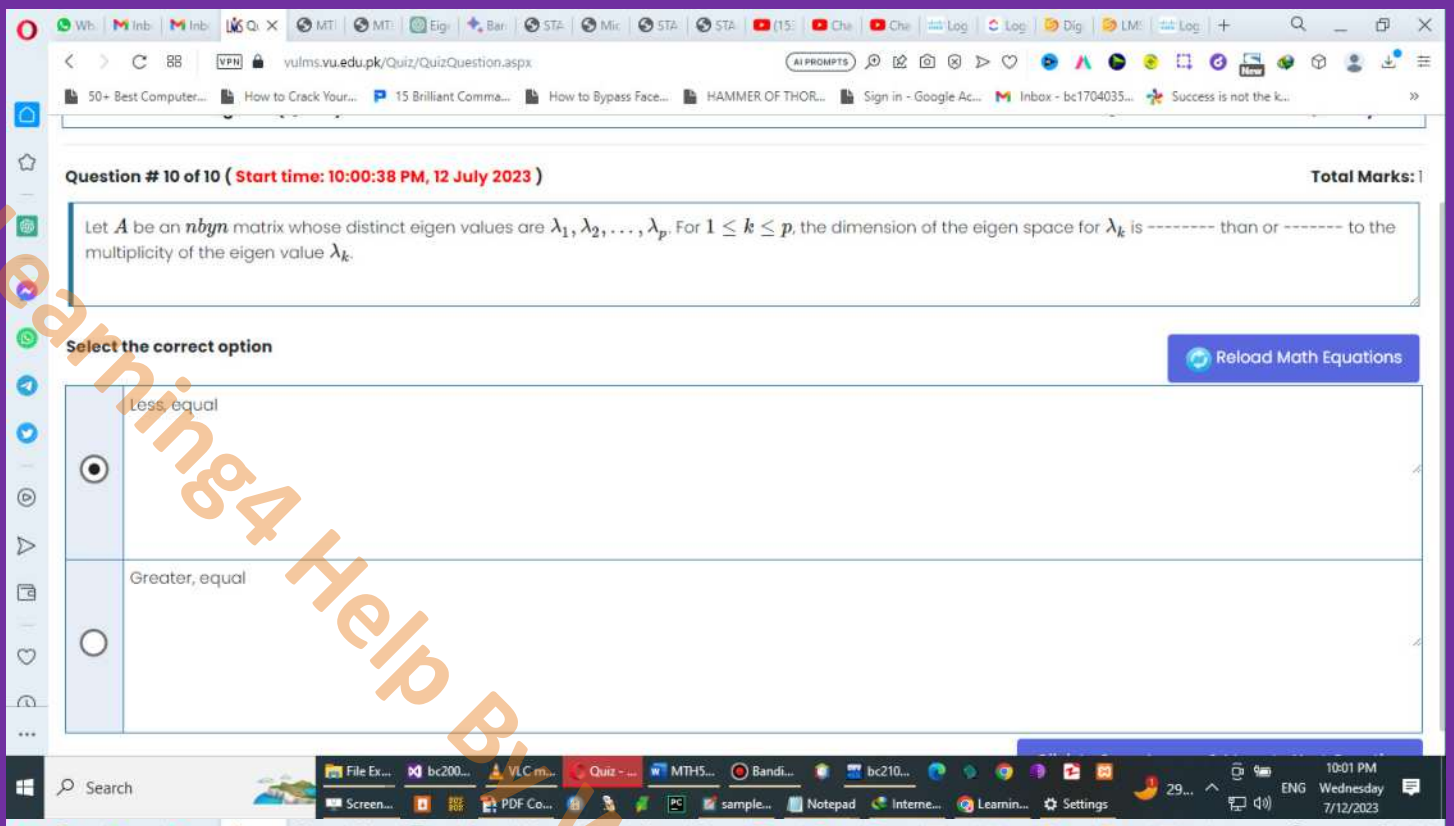
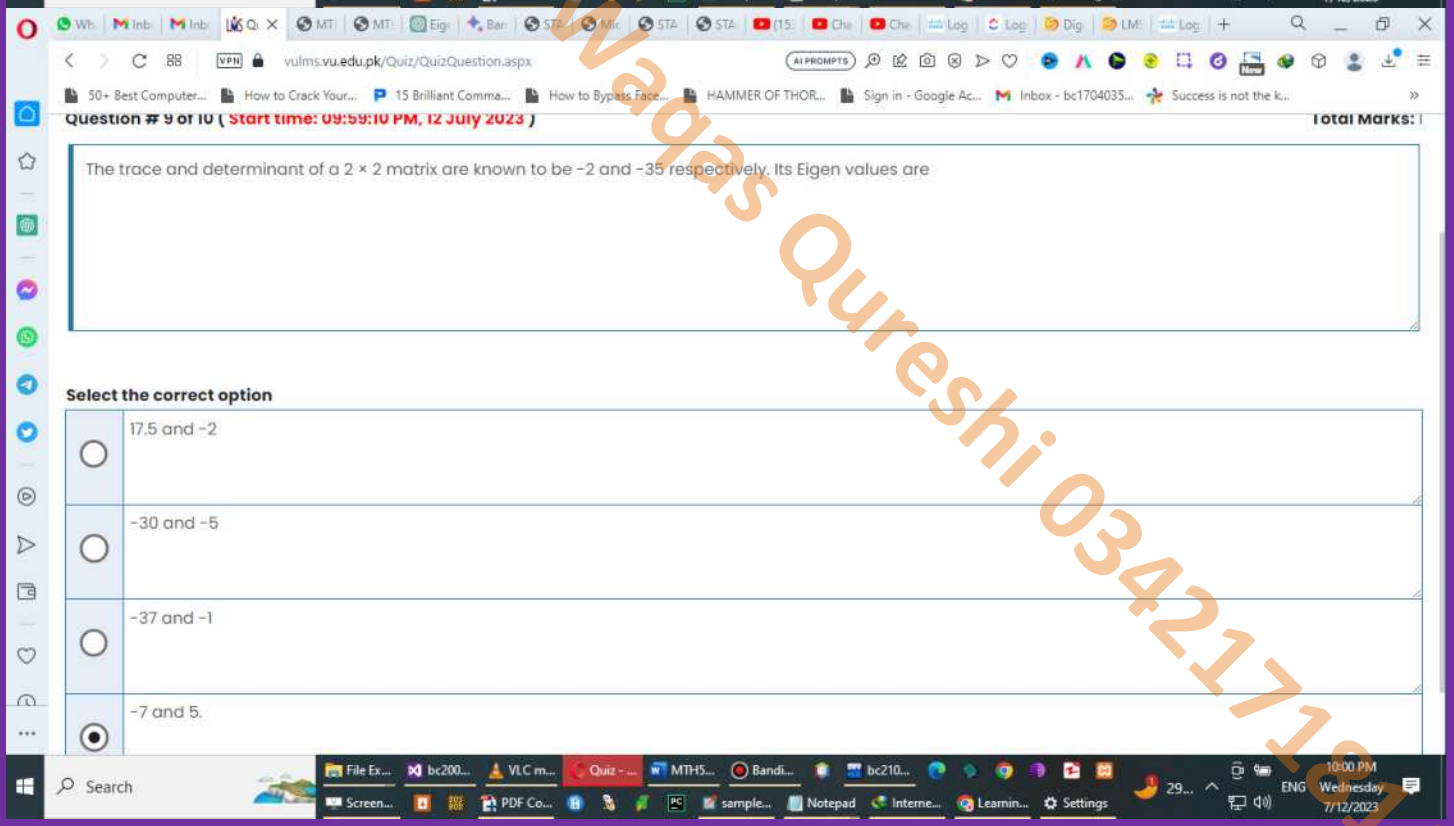
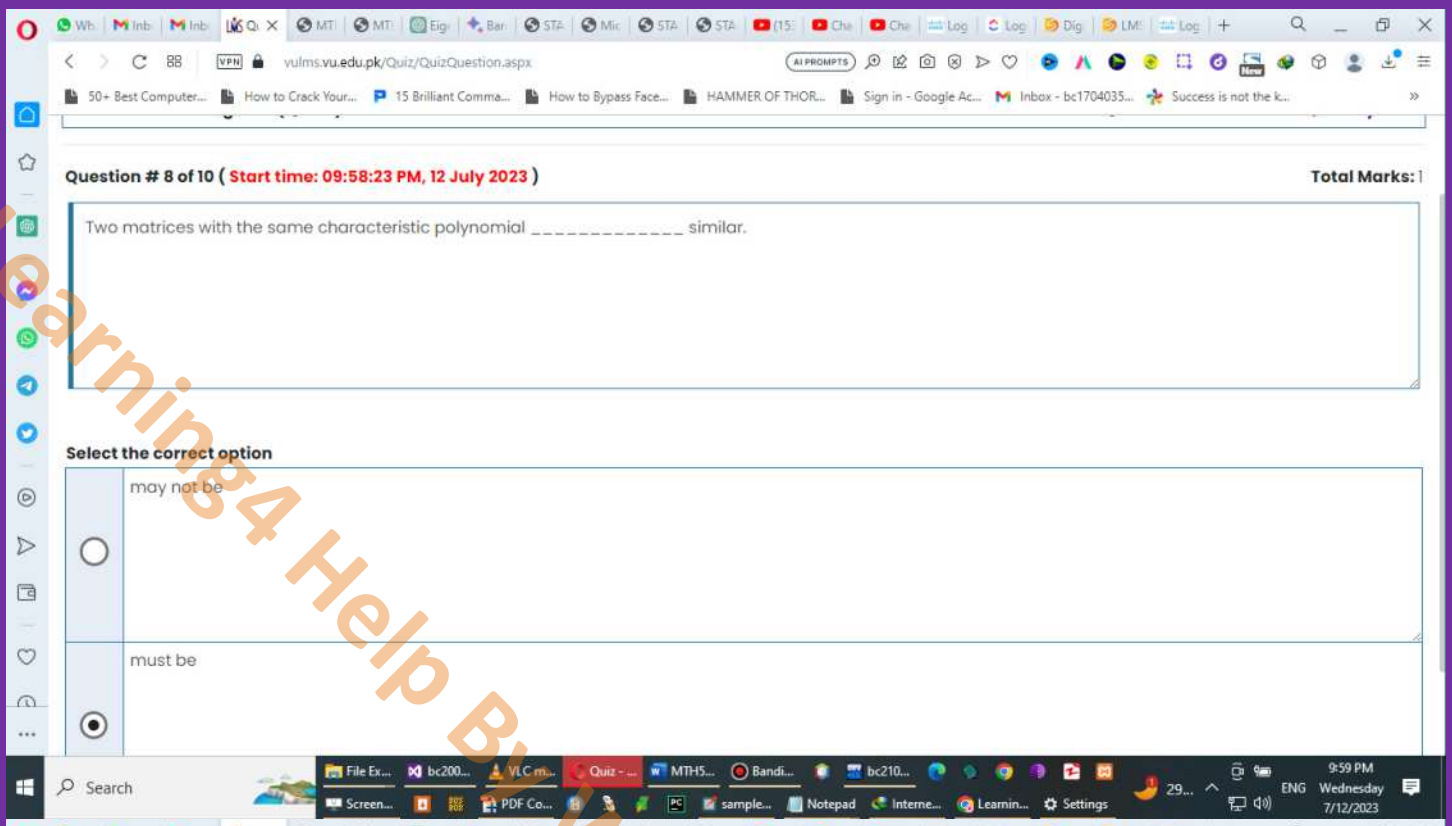
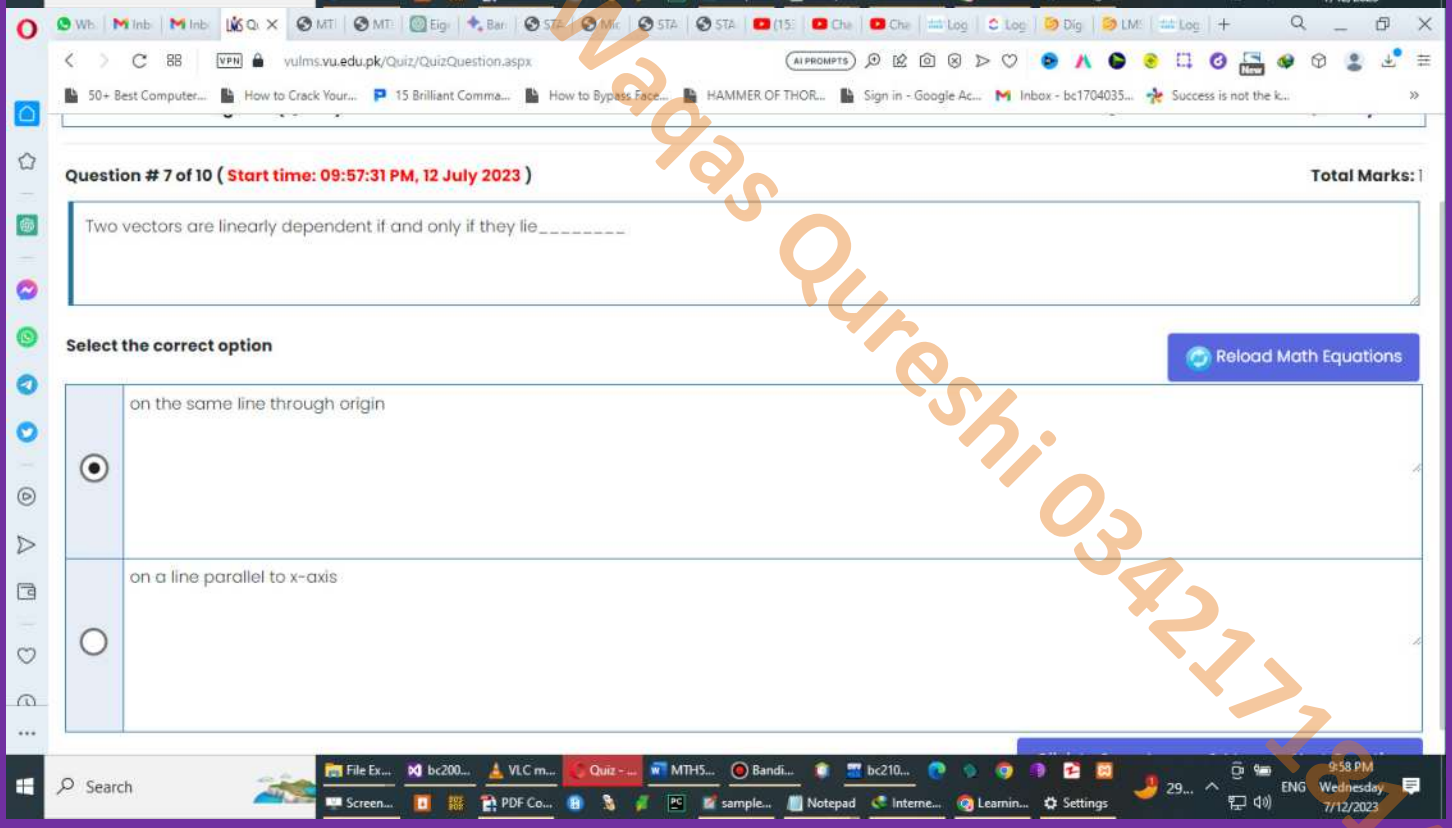
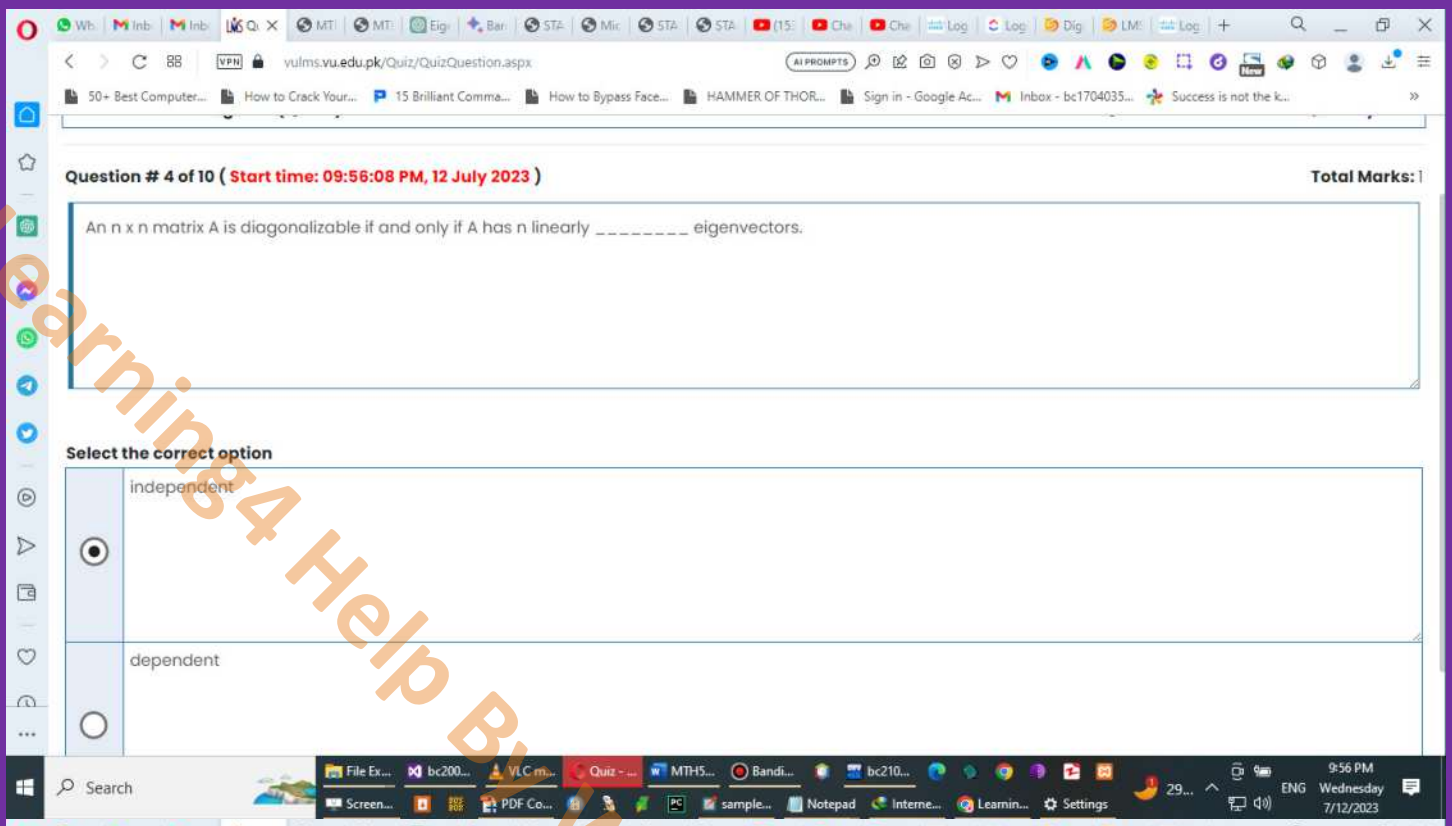
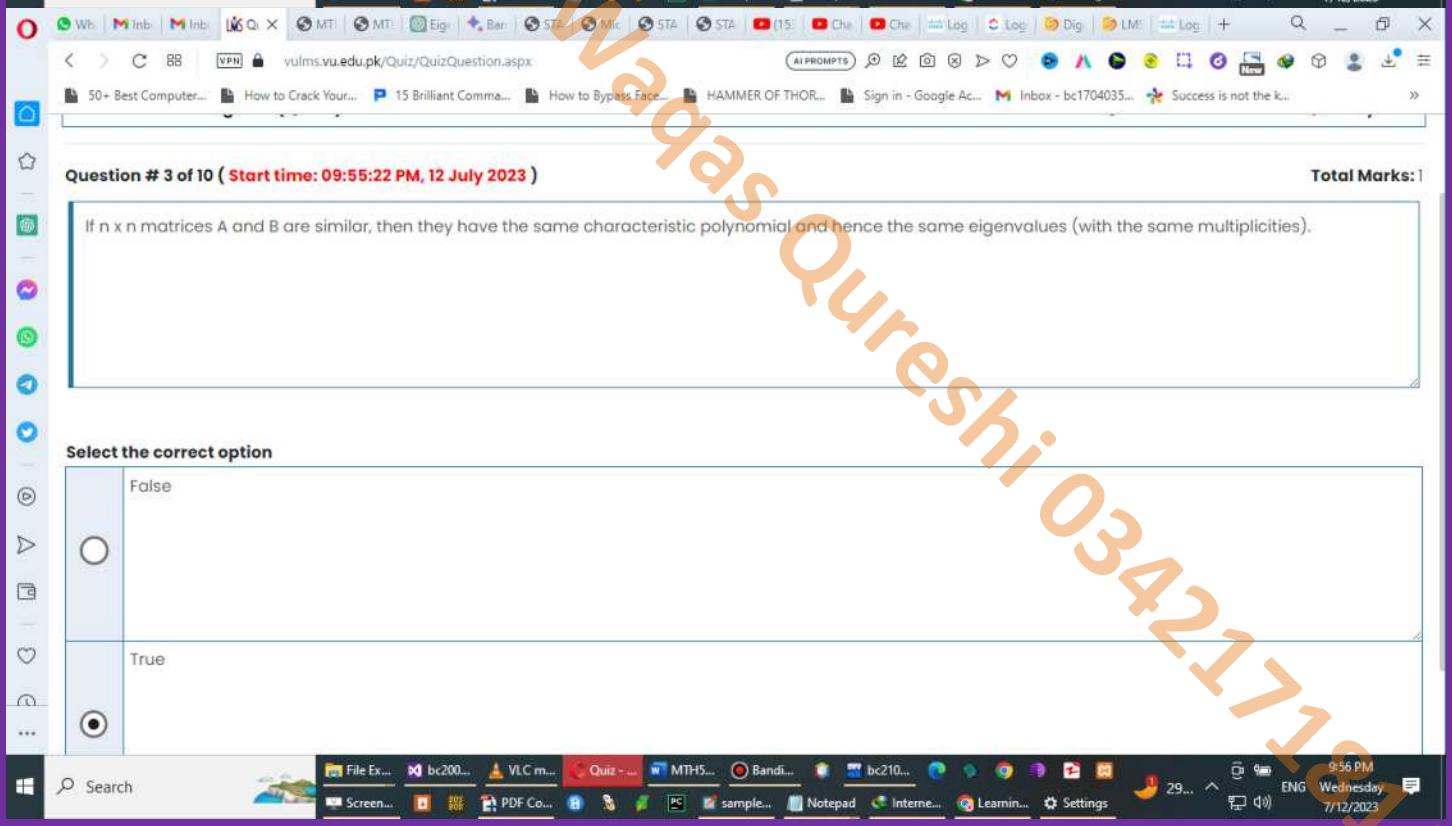


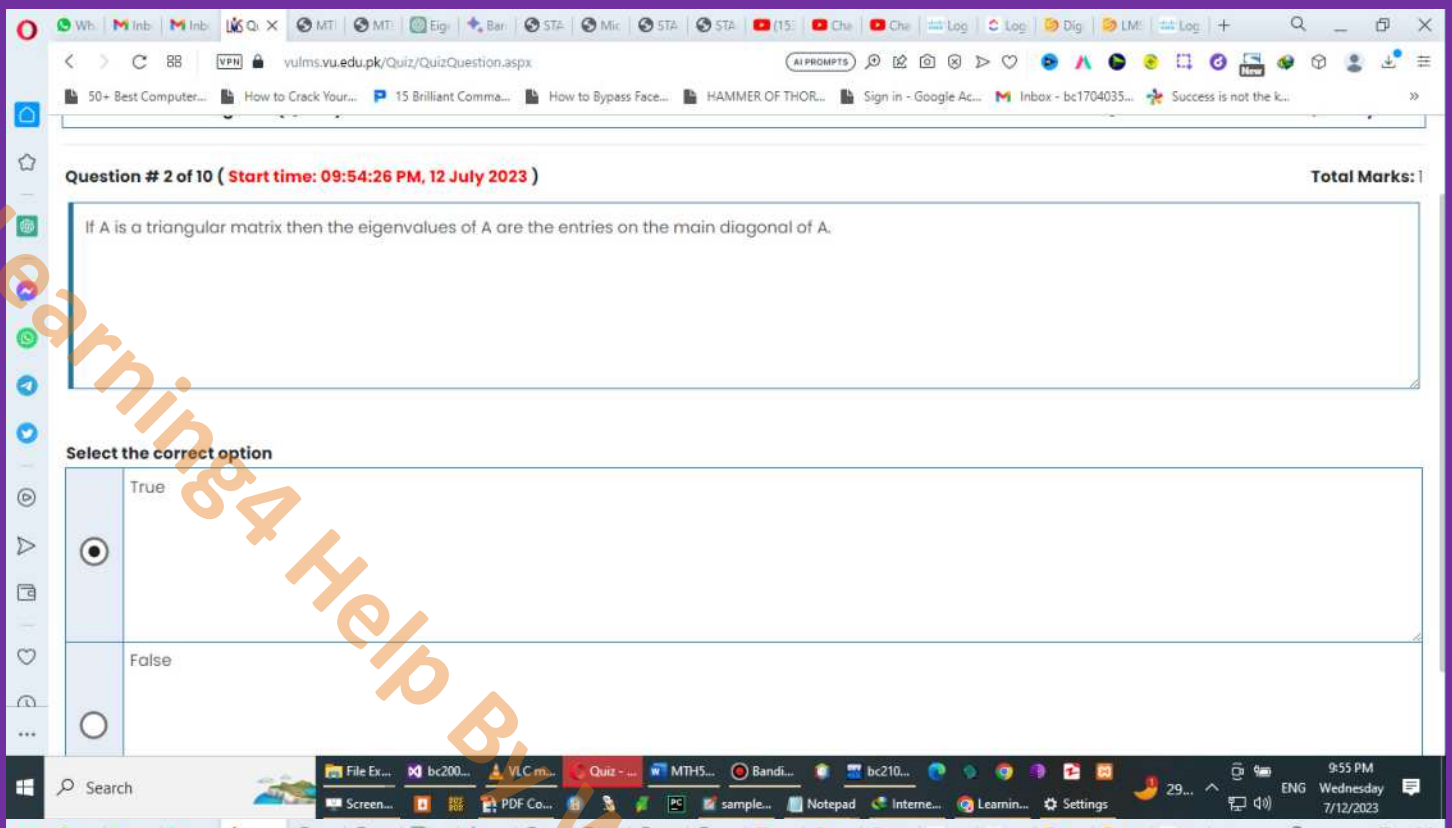










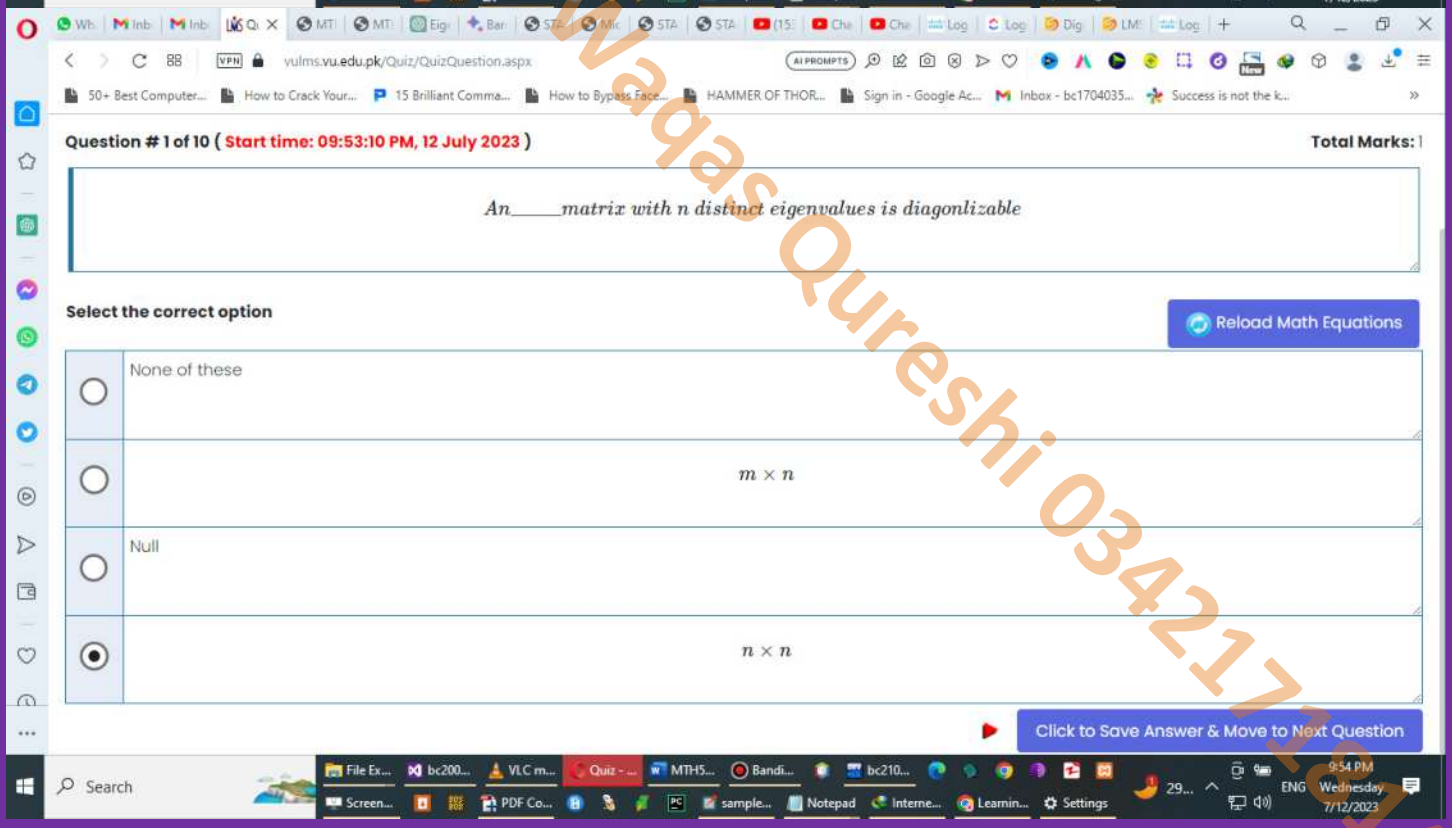


Question # 2 of 10 (Start time: 09:54:26 PM, 12 July 2023) **Total Marks:** 1

If A is a triangular matrix then the eigenvalues of A are the entries on the main diagonal of A.

Select the correct option

- (●) True
- ( ) False



Question # 1 of 10 (Start time: 09:53:10 PM, 12 July 2023) **Total Marks:** 1

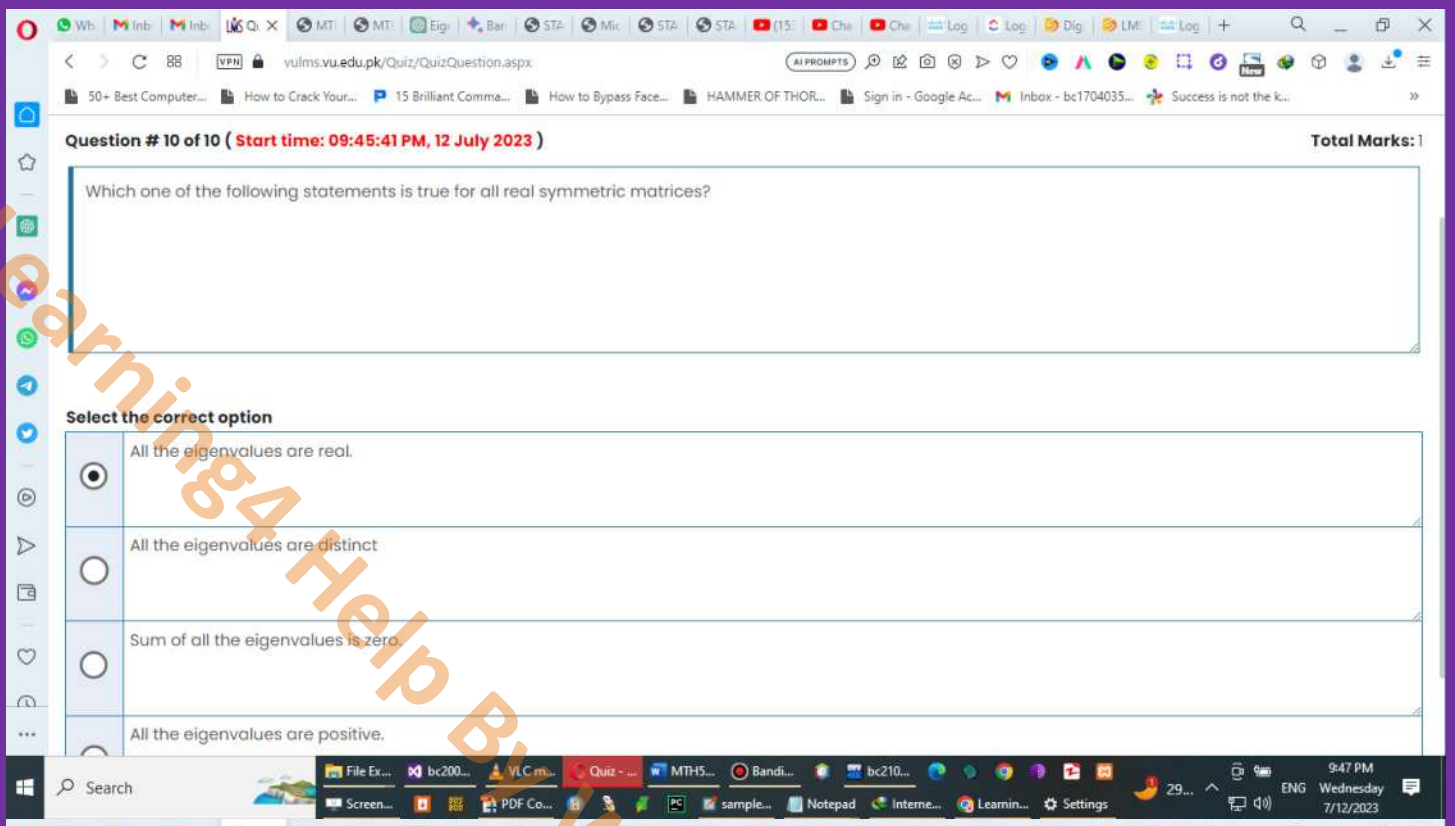
An_____matrix with n distinct eigenvalues is diagonlizable

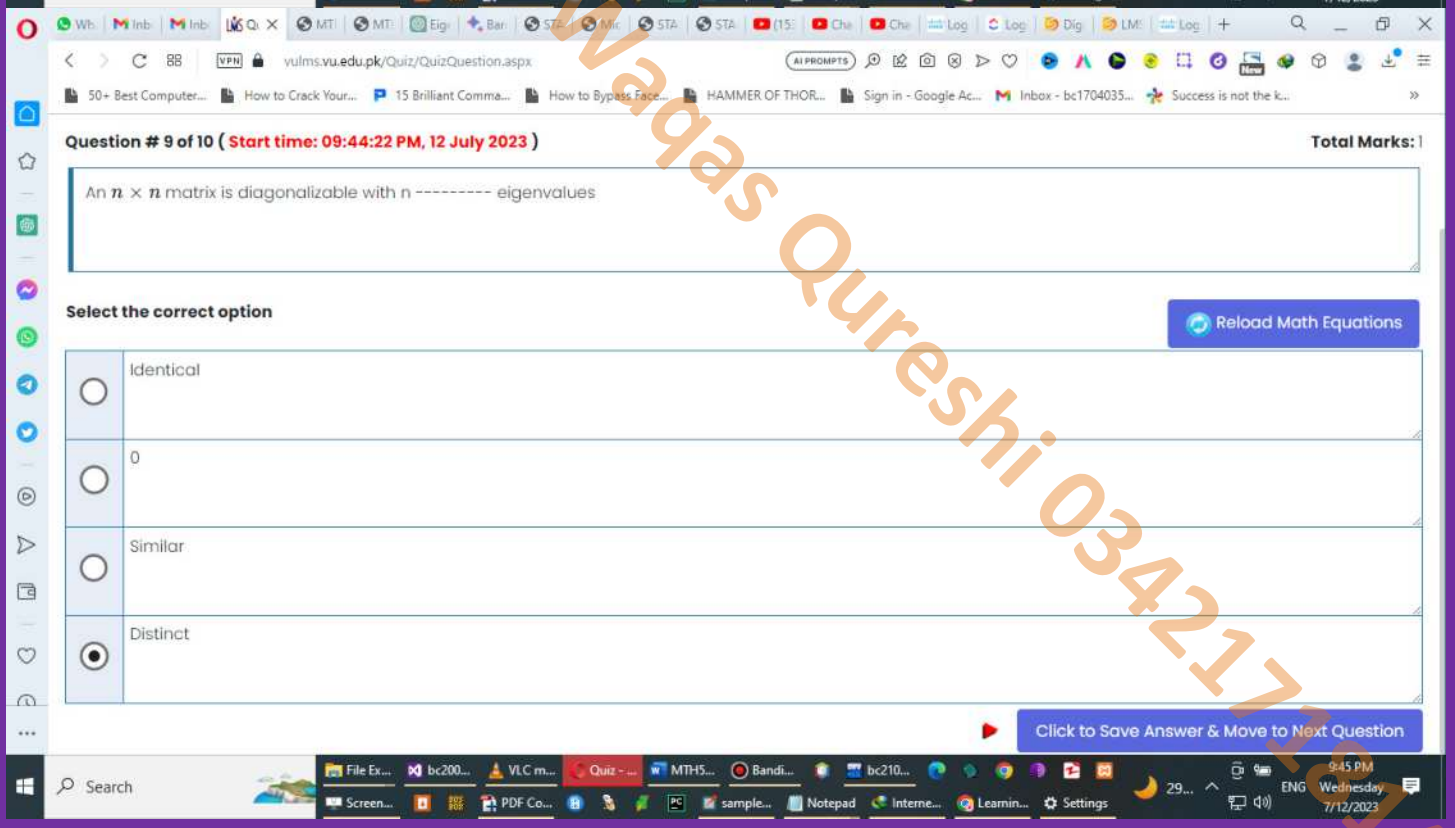
Select the correct option

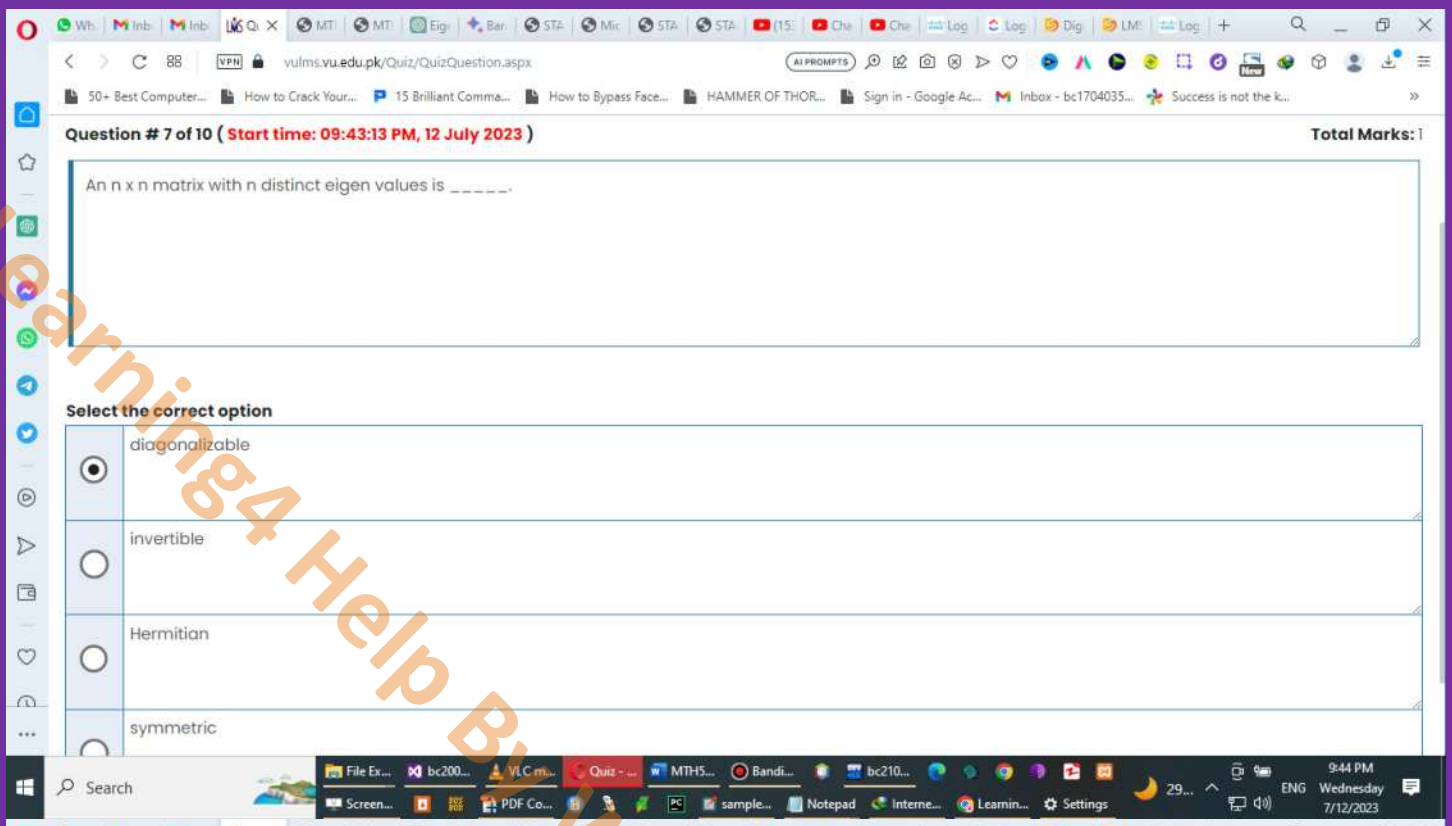
Reload Math Equations

- ( ) None of these
- ( ) $m \times n$
- ( ) Null
- (●) $n \times n$

Click to Save Answer & Move to Next Question





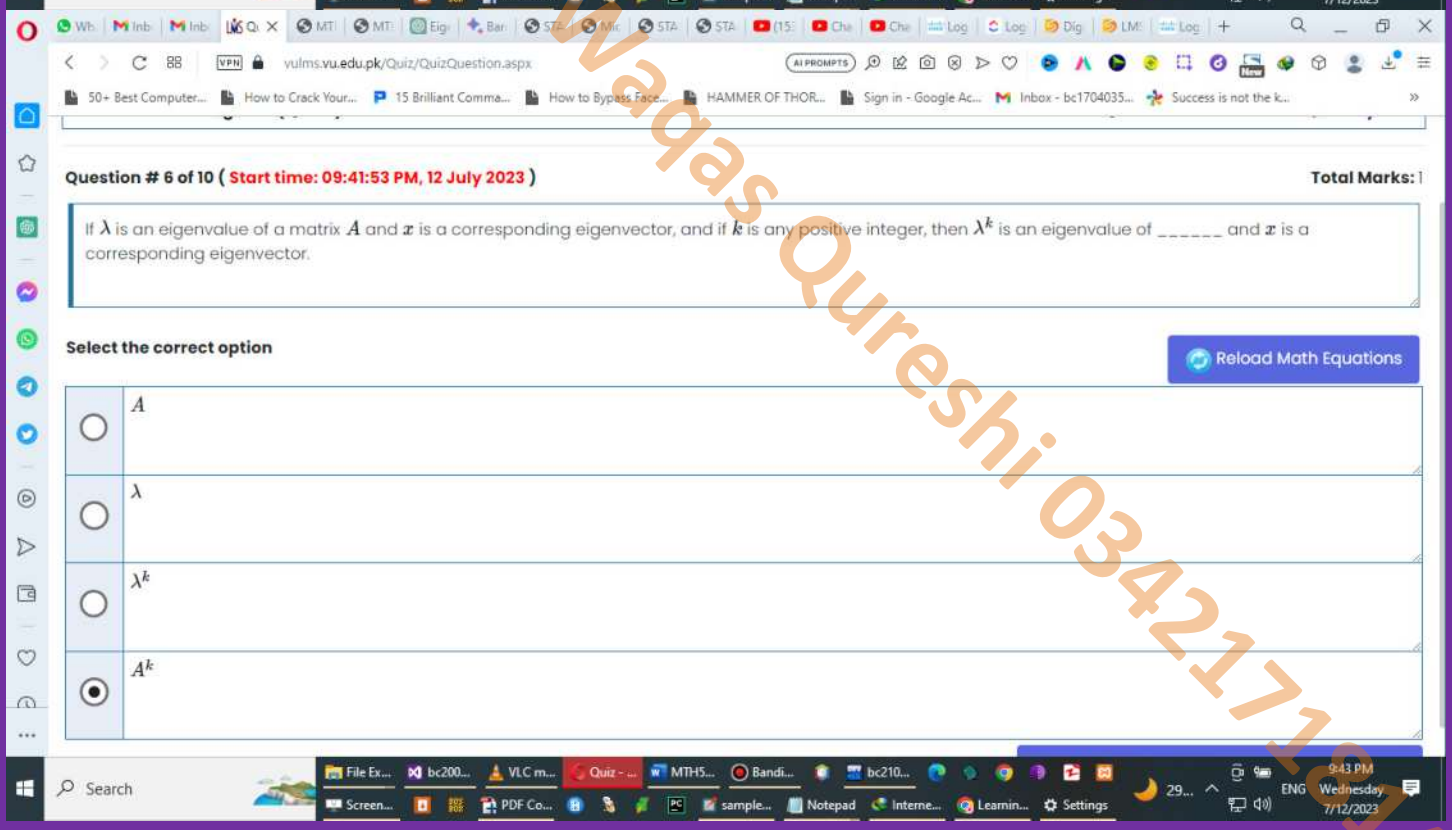


Question # 7 of 10 (Start time: 09:43:13 PM, 12 July 2023) **Total Marks:** 1

An n x n matrix with n distinct eigen values is _____.

Select the correct option

- (•) diagonalizable
- ( ) invertible
- ( ) Hermitian
- ( ) symmetric



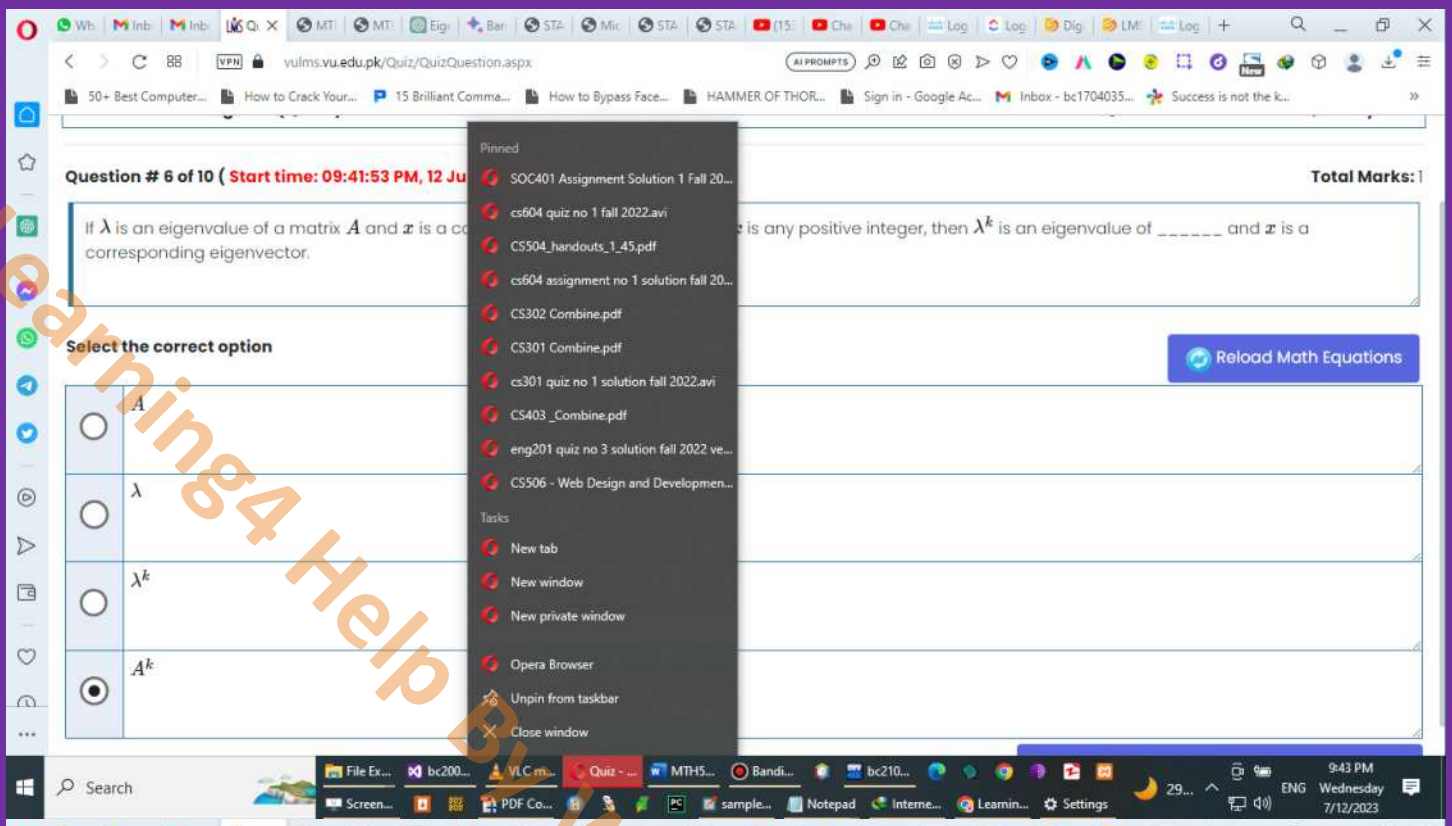
Question # 6 of 10 (Start time: 09:41:53 PM, 12 July 2023) **Total Marks:** 1

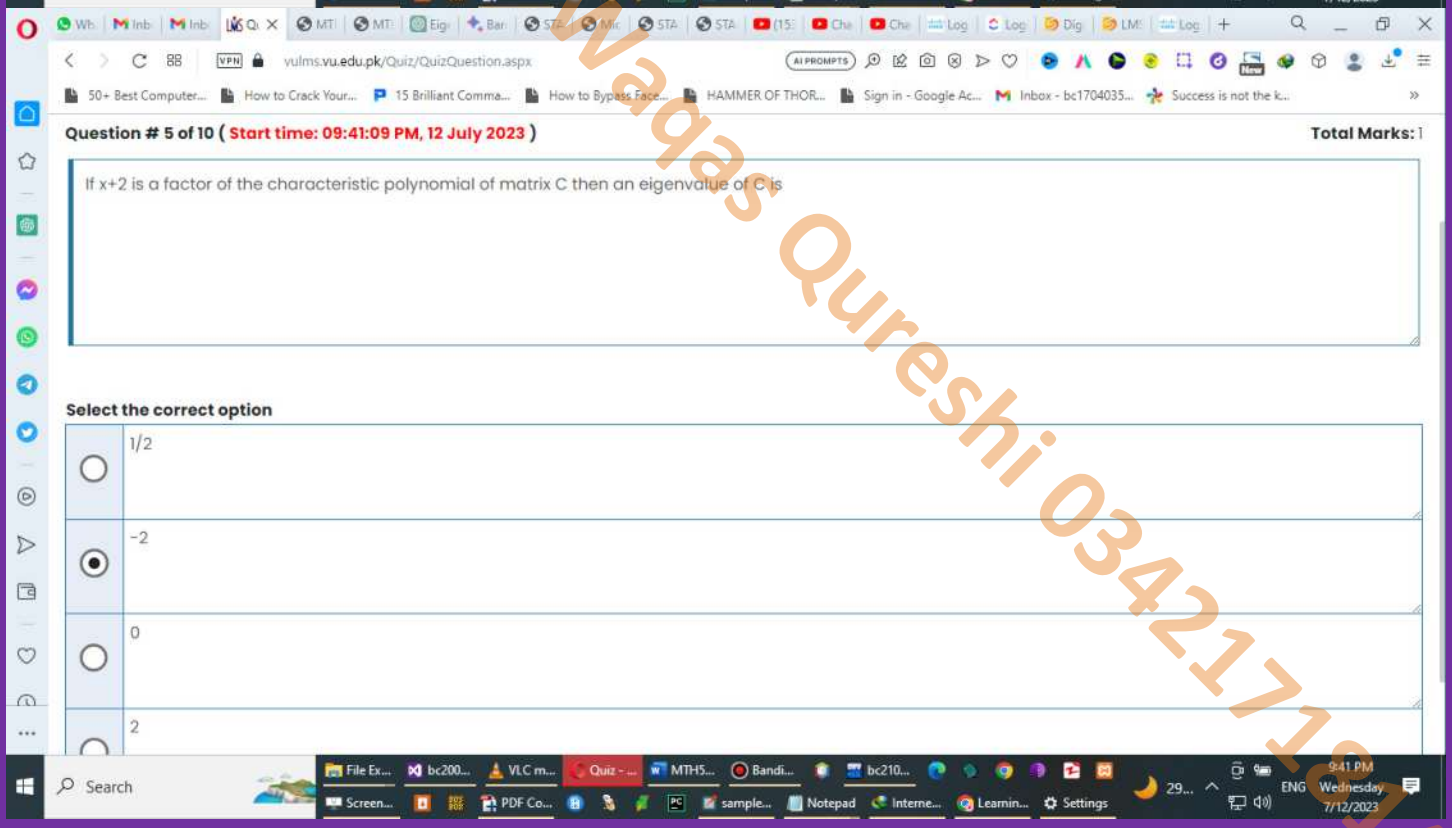
If λ is an eigenvalue of a matrix A and x is a corresponding eigenvector, and if k is any positive integer, then λ^k is an eigenvalue of _____ and x is a corresponding eigenvector.

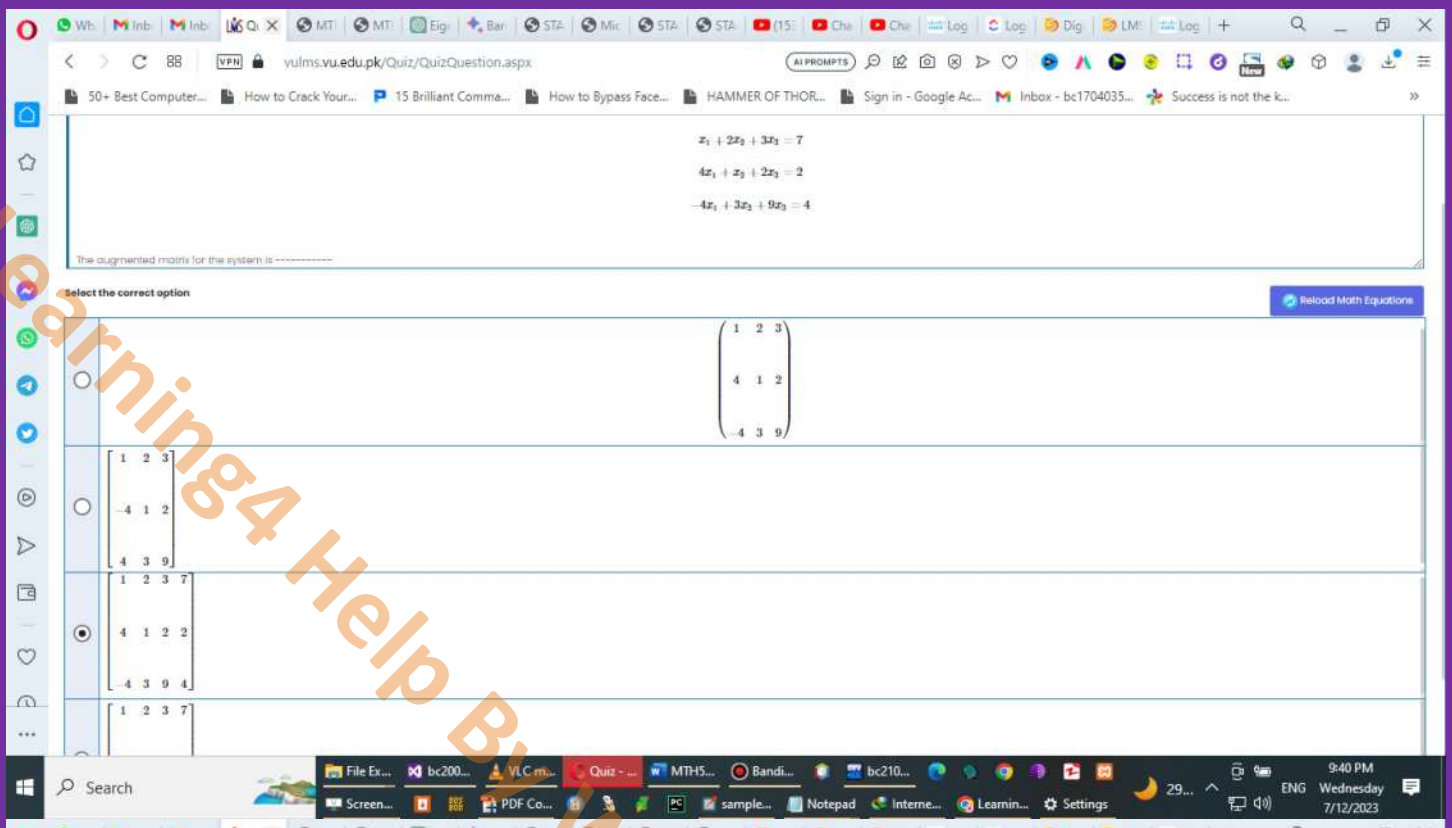
Select the correct option

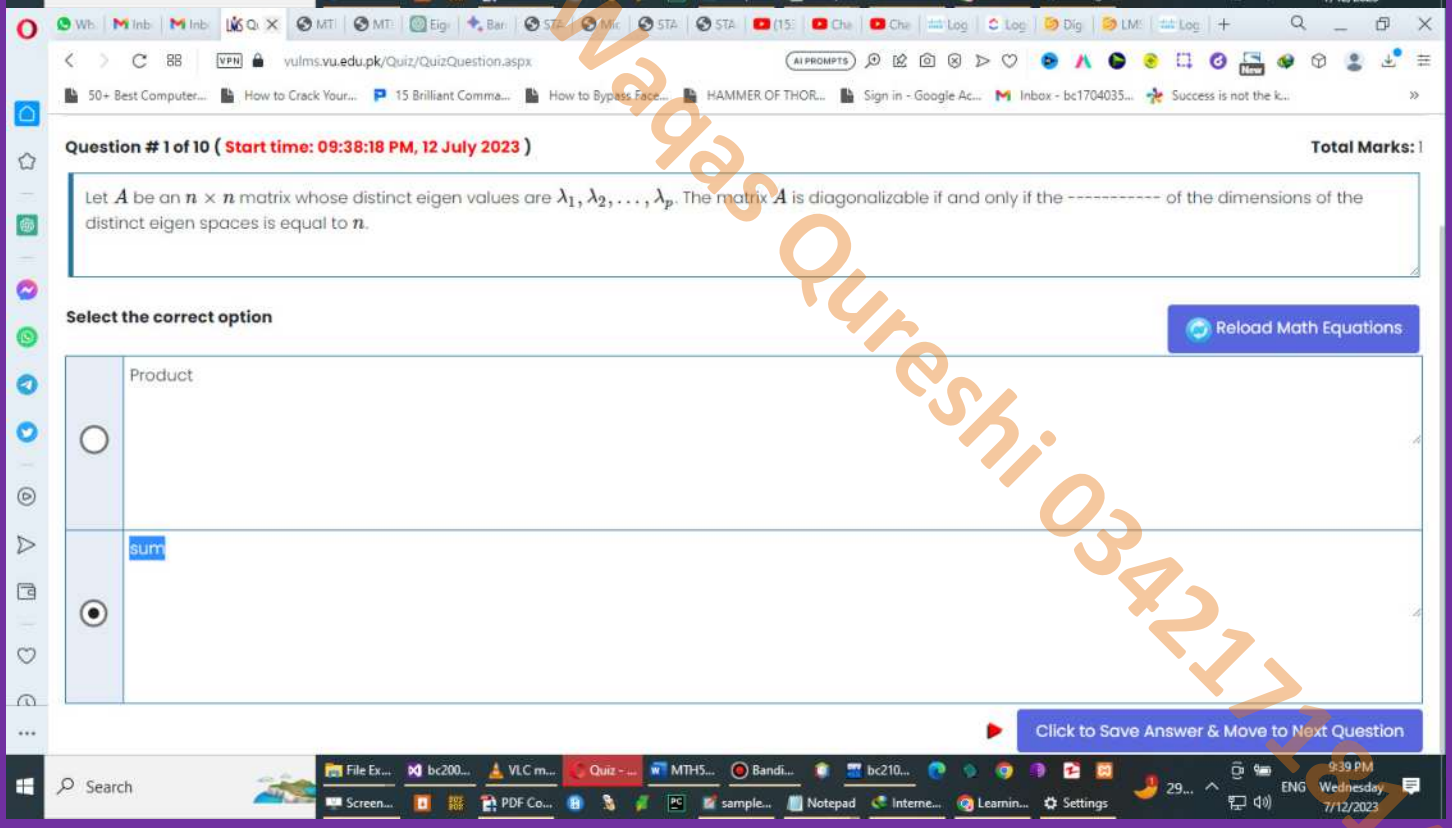
Reload Math Equations

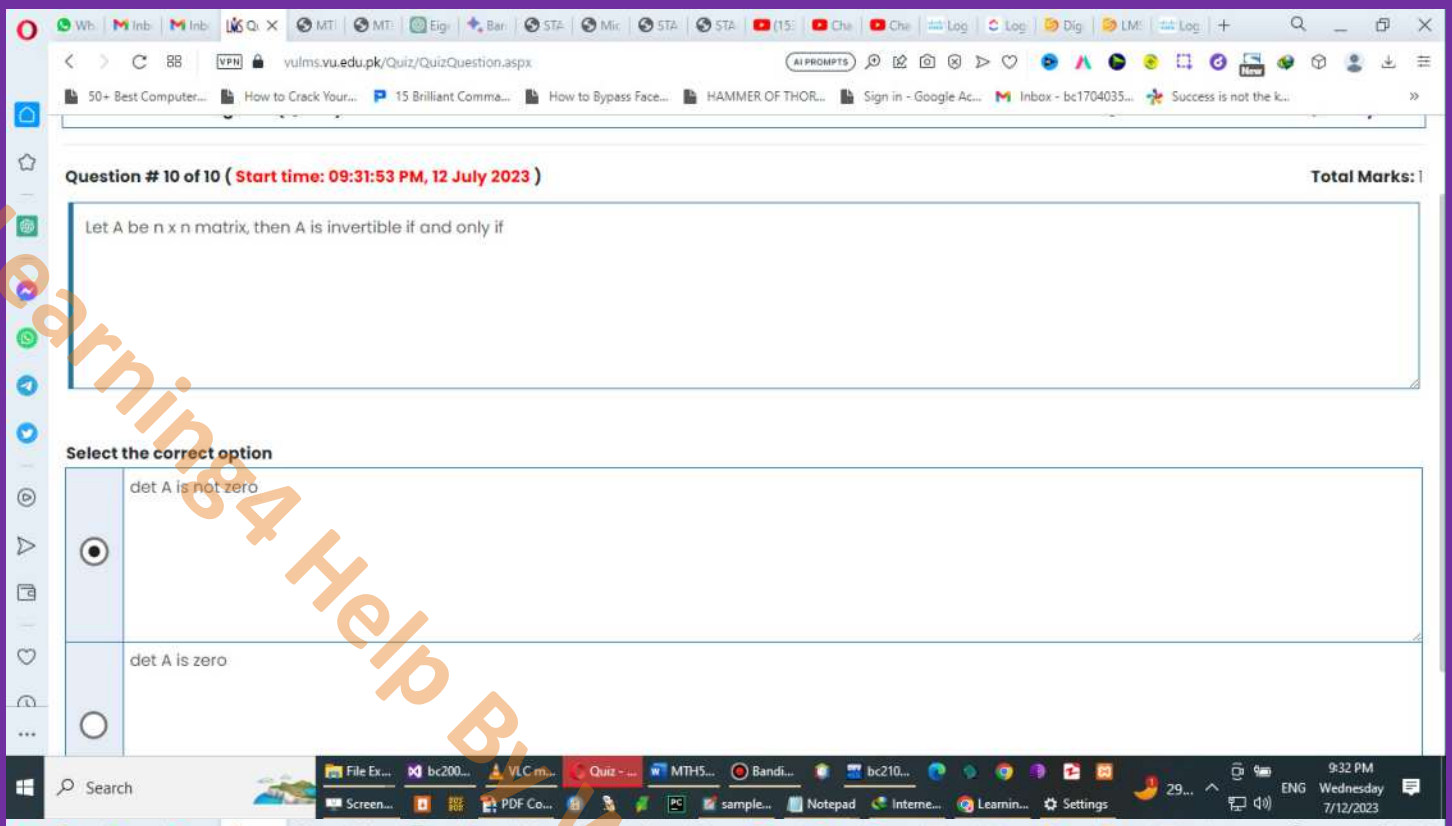
- ( ) A
- ( ) λ
- ( ) λ^k
- (•) A^k

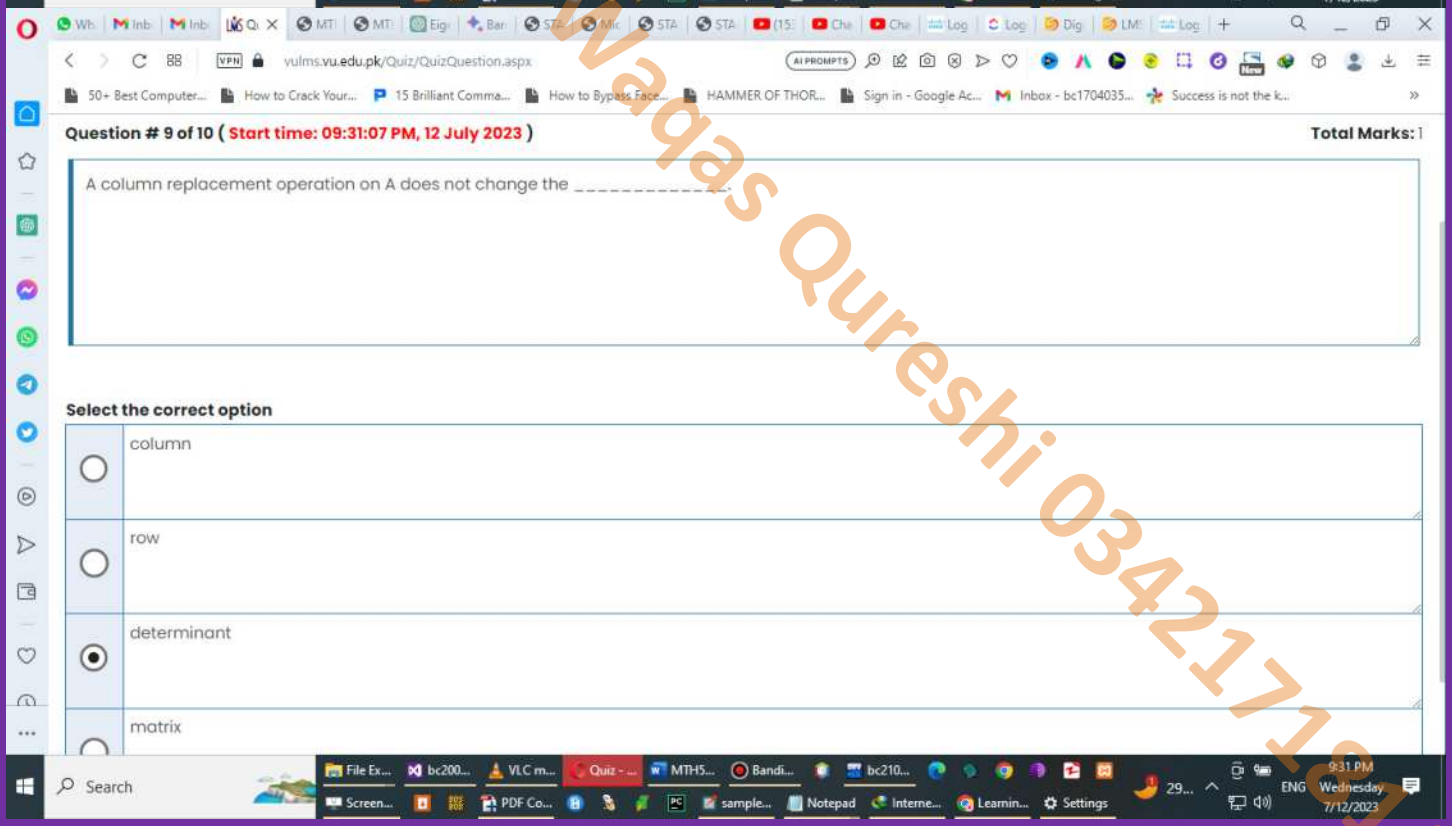


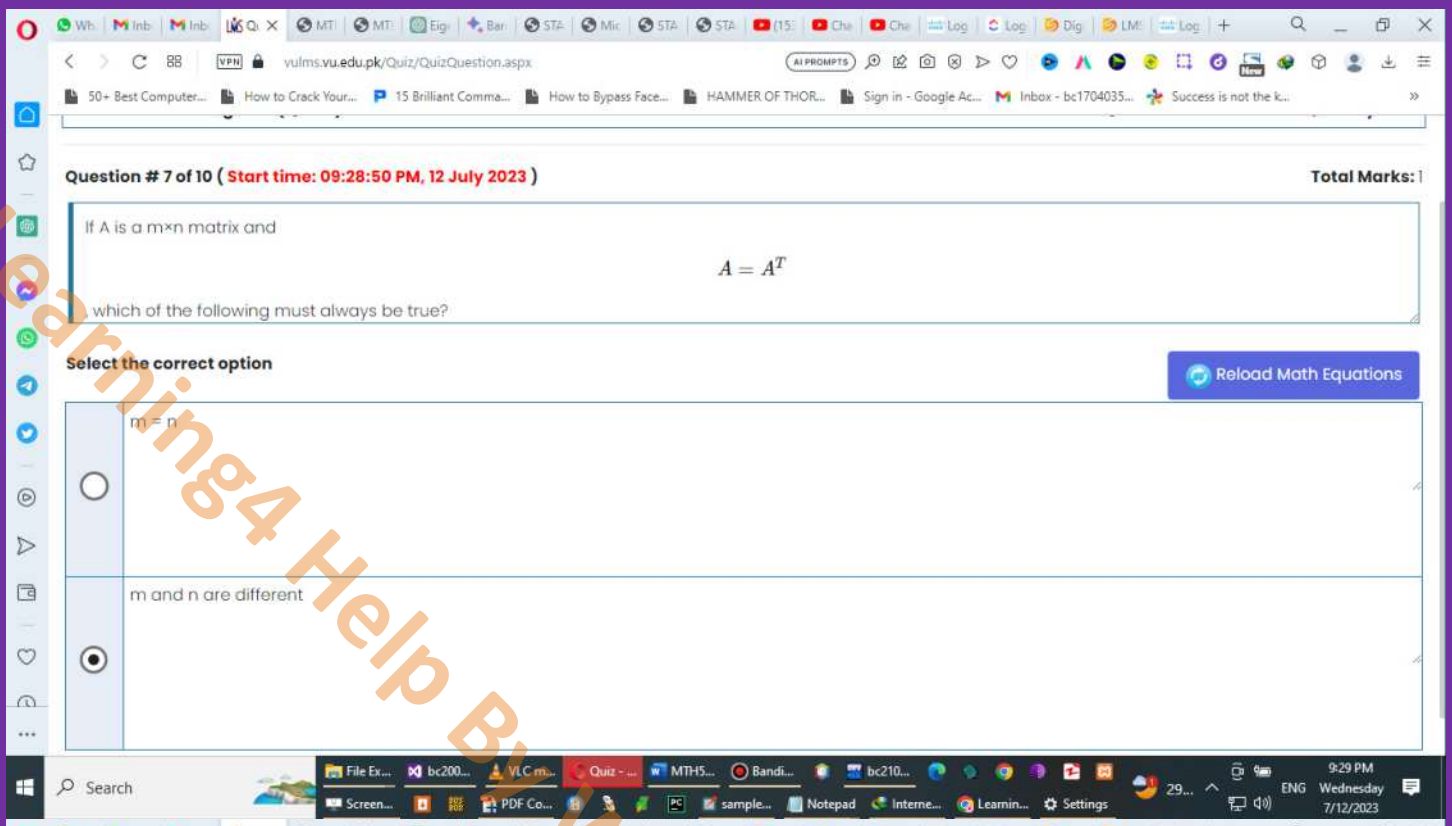


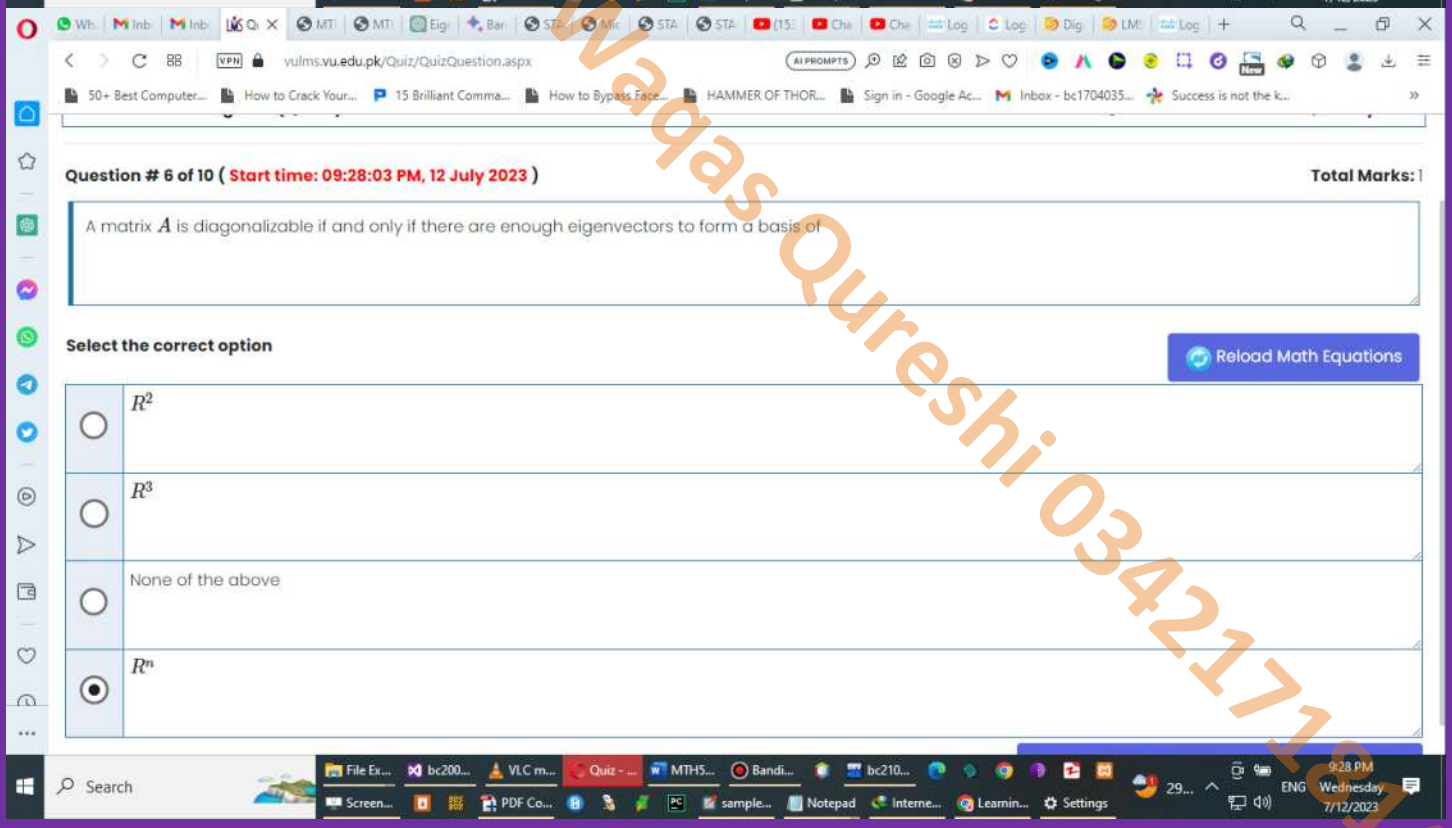


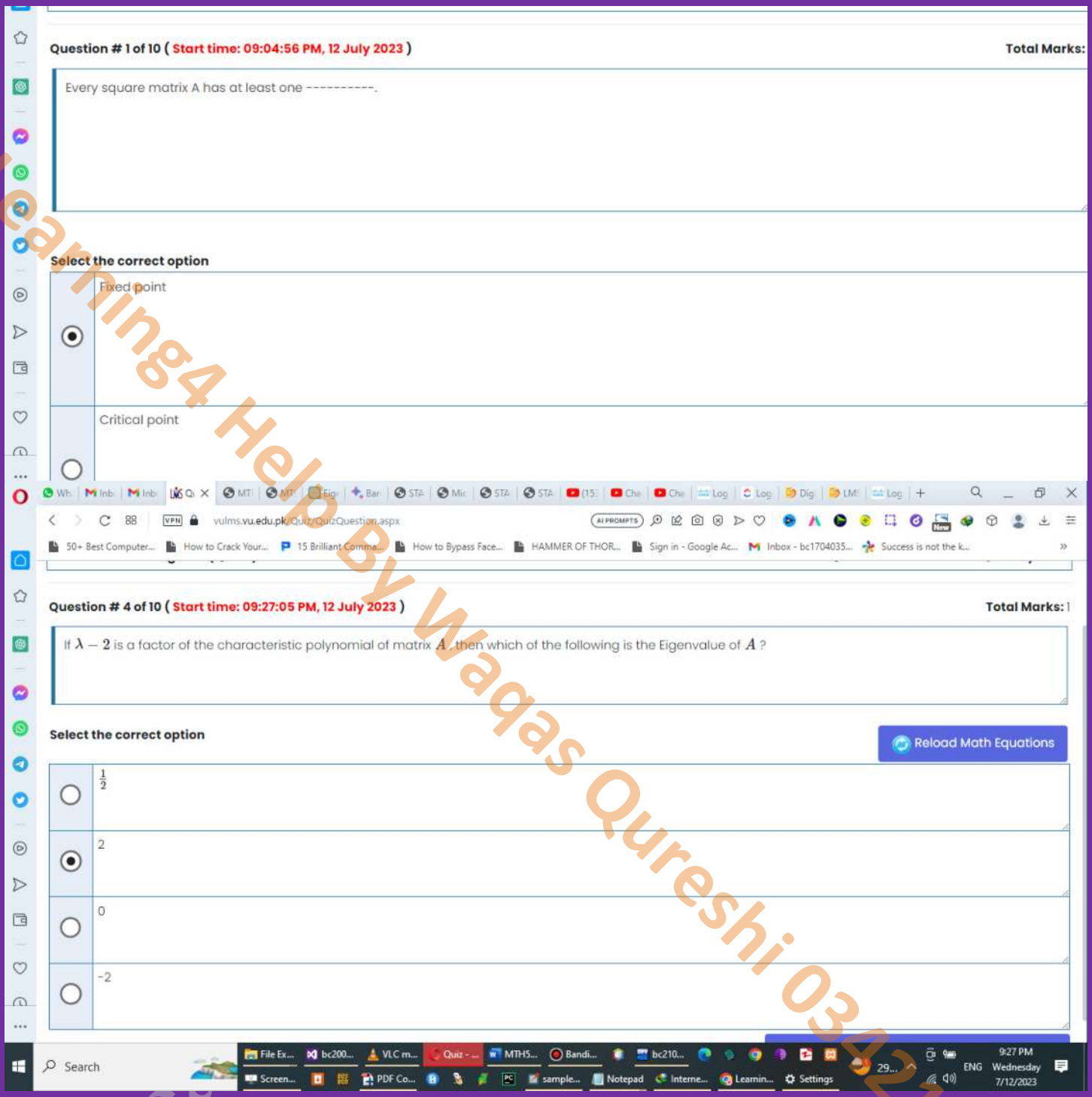


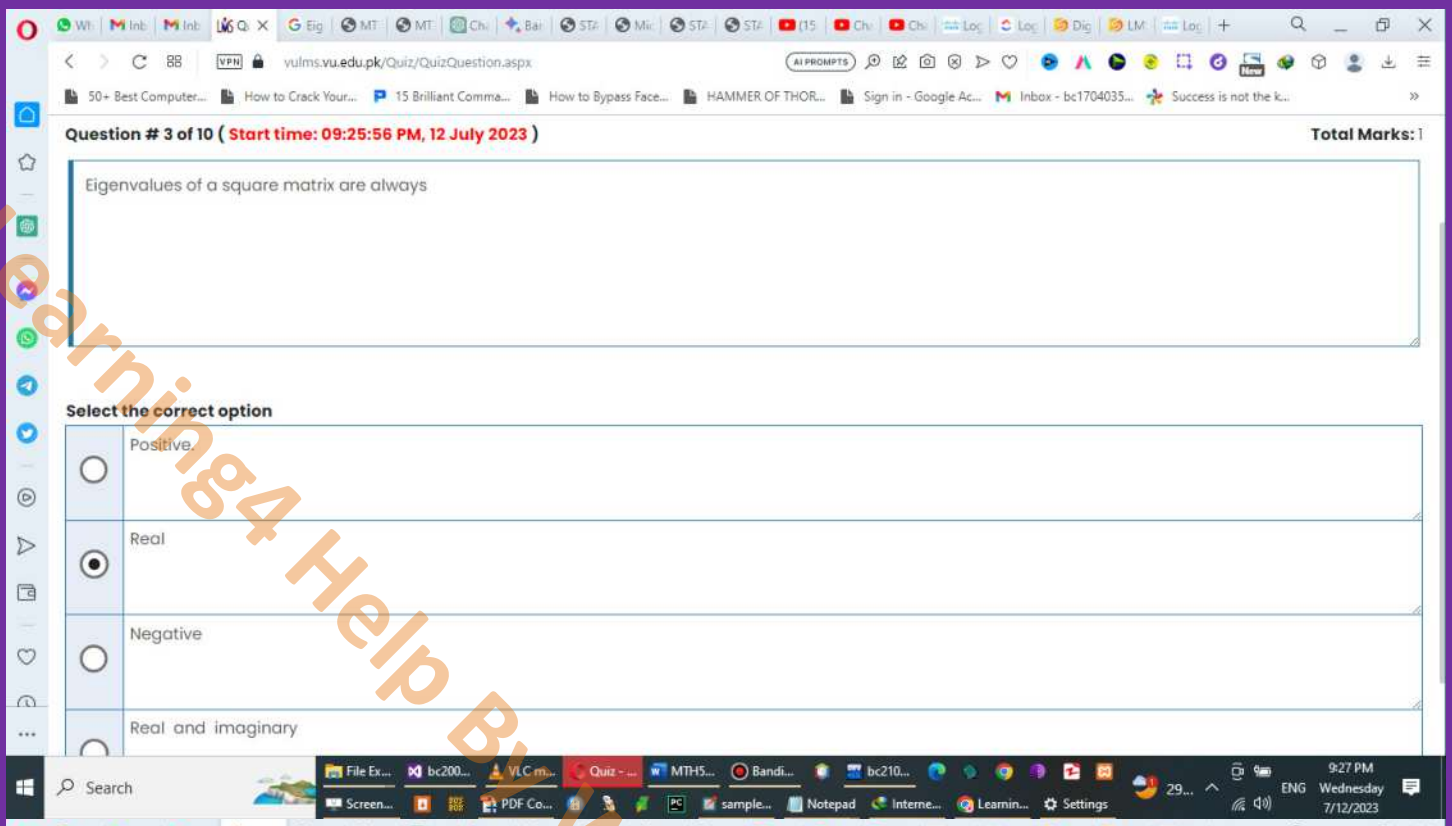










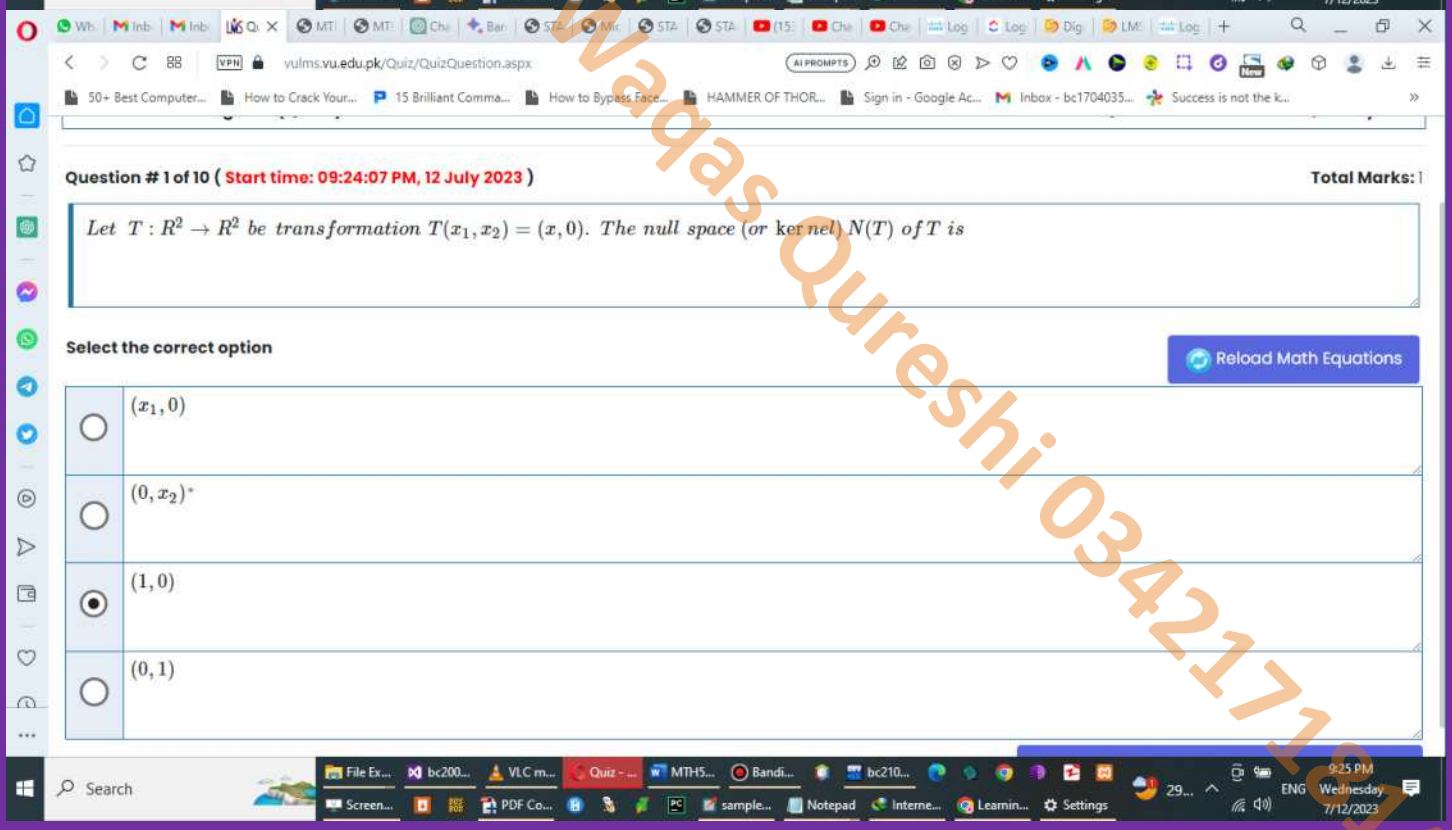


Question # 3 of 10 (Start time: 09:25:56 PM, 12 July 2023) Total Marks: 1

Eigenvalues of a square matrix are always

Select the correct option

- Positive.
- Real
- Negative
- Real and imaginary



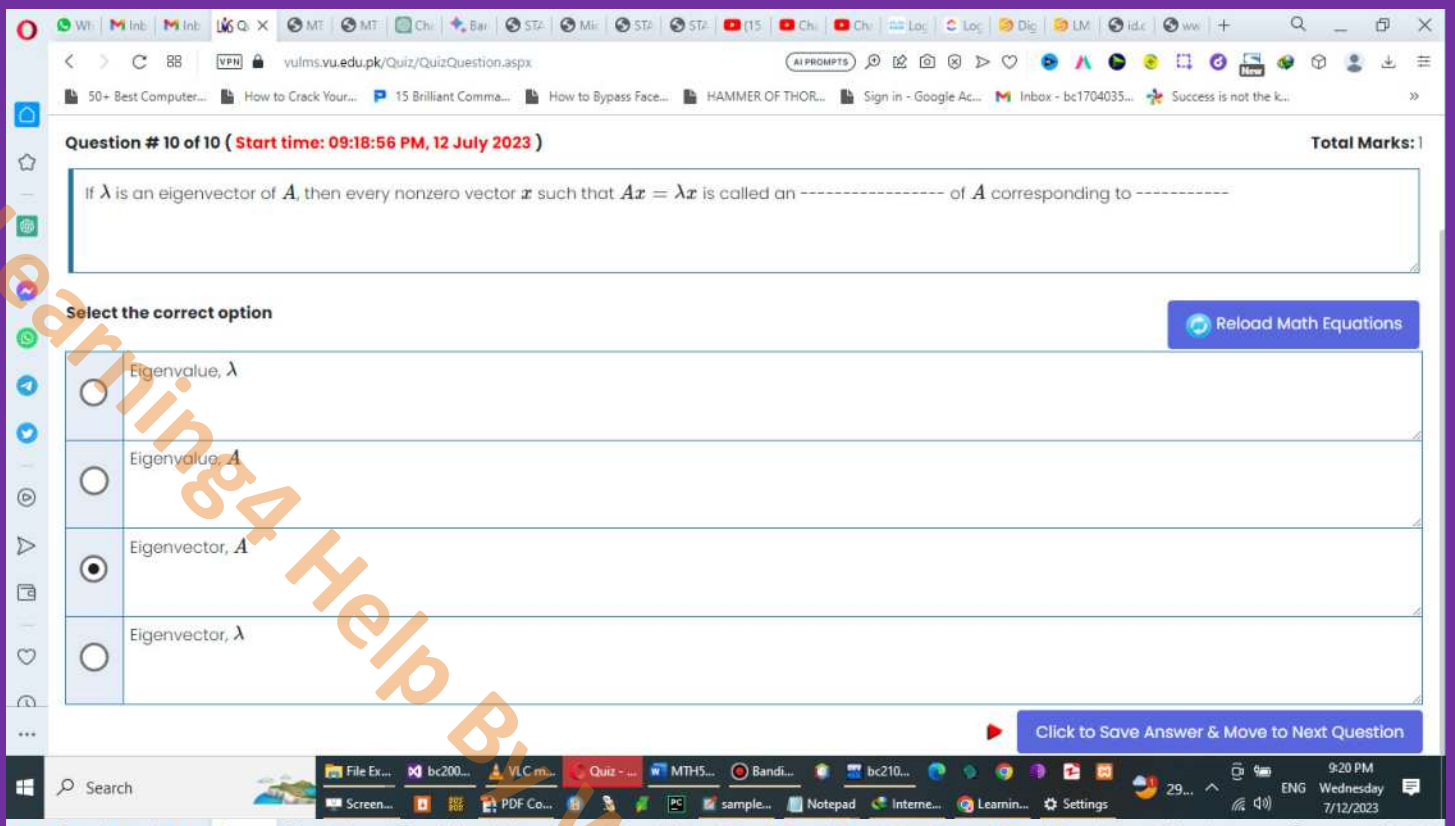
Question # 1 of 10 (Start time: 09:24:07 PM, 12 July 2023) Total Marks: 1

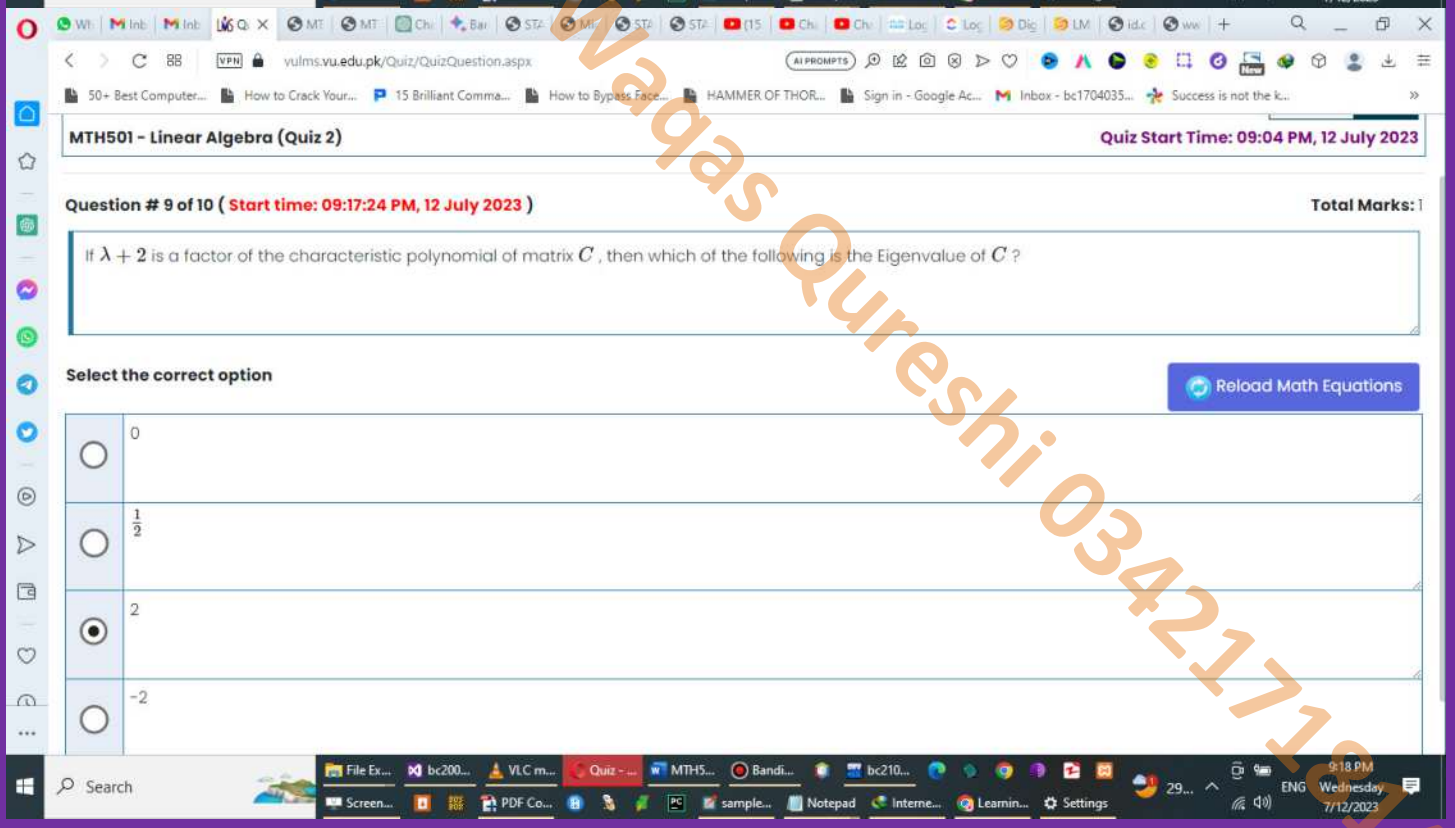
Let $T : R^2 \to R^2$ be transformation $T(x_1, x_2) = (x, 0)$. The null space (or kernel) $N(T)$ of T is

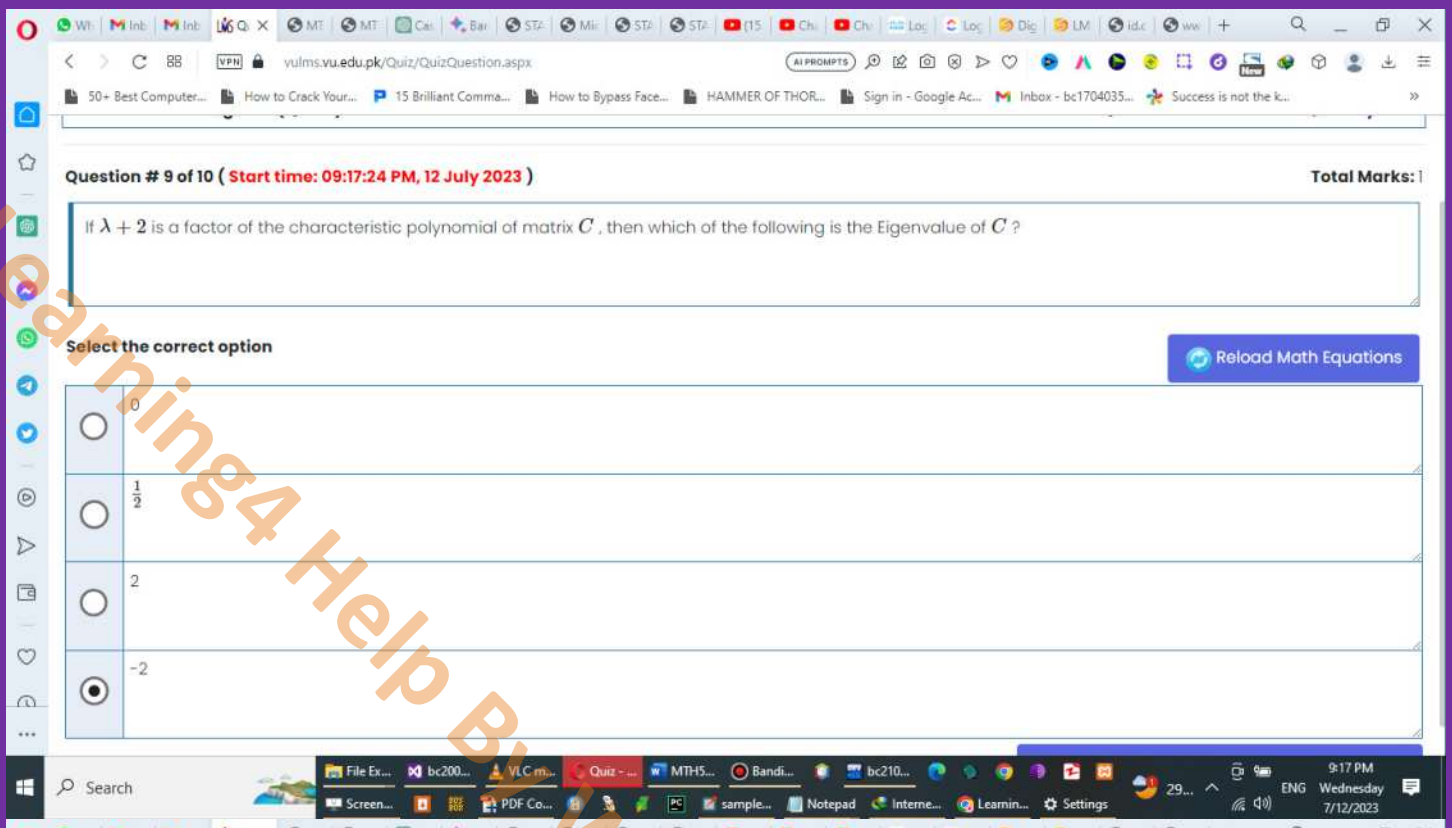
Select the correct option

Reload Math Equations

- $(x_1, 0)$
- $(0, x_2)^*$
- $(1, 0)$
- $(0, 1)$







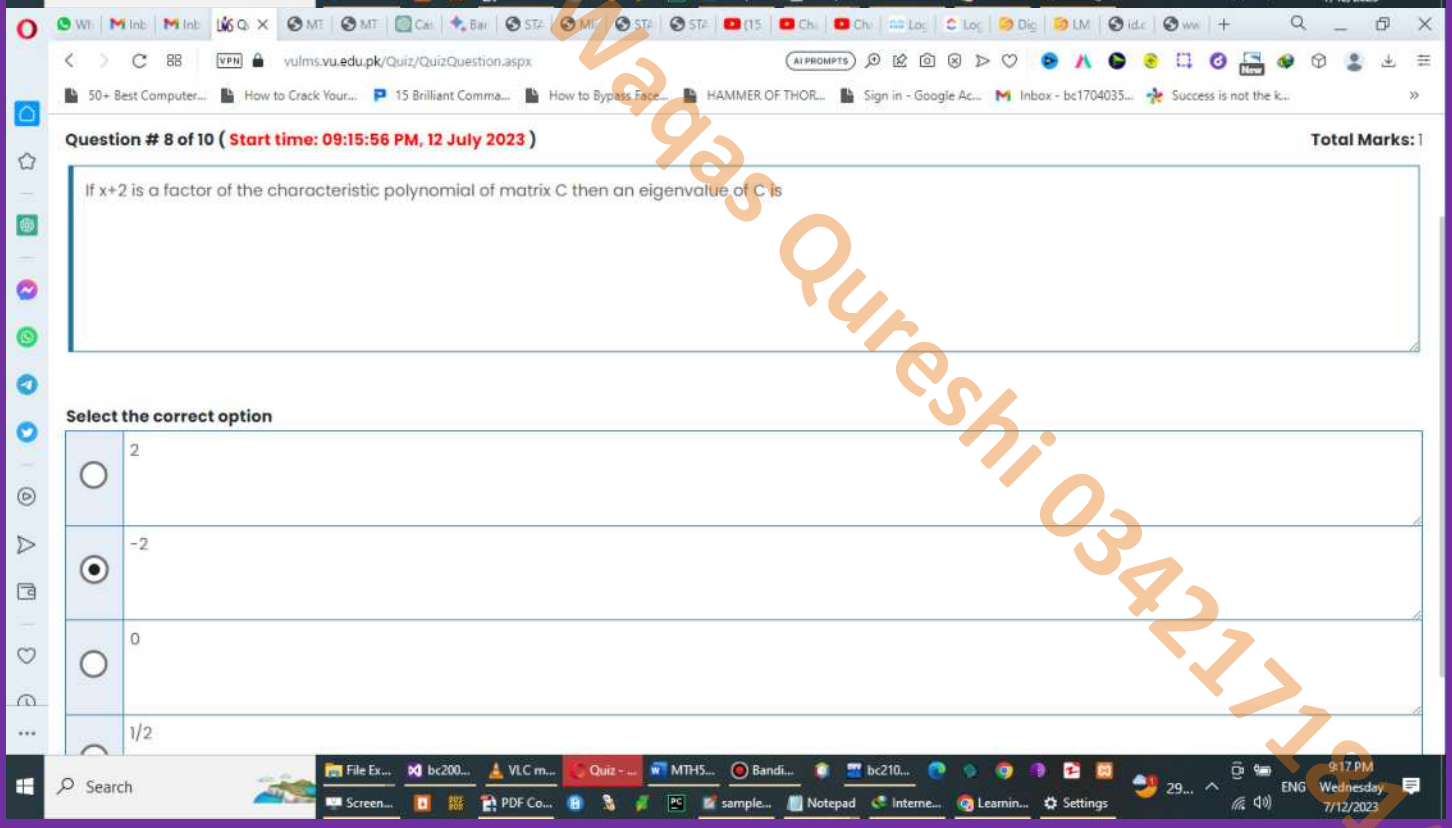
Question # 9 of 10 (Start time: 09:17:24 PM, 12 July 2023) **Total Marks:** 1

If $\lambda + 2$ is a factor of the characteristic polynomial of matrix C, then which of the following is the Eigenvalue of C?

Select the correct option

Reload Math Equations

- 0
- $\frac{1}{2}$
- 2
- -2

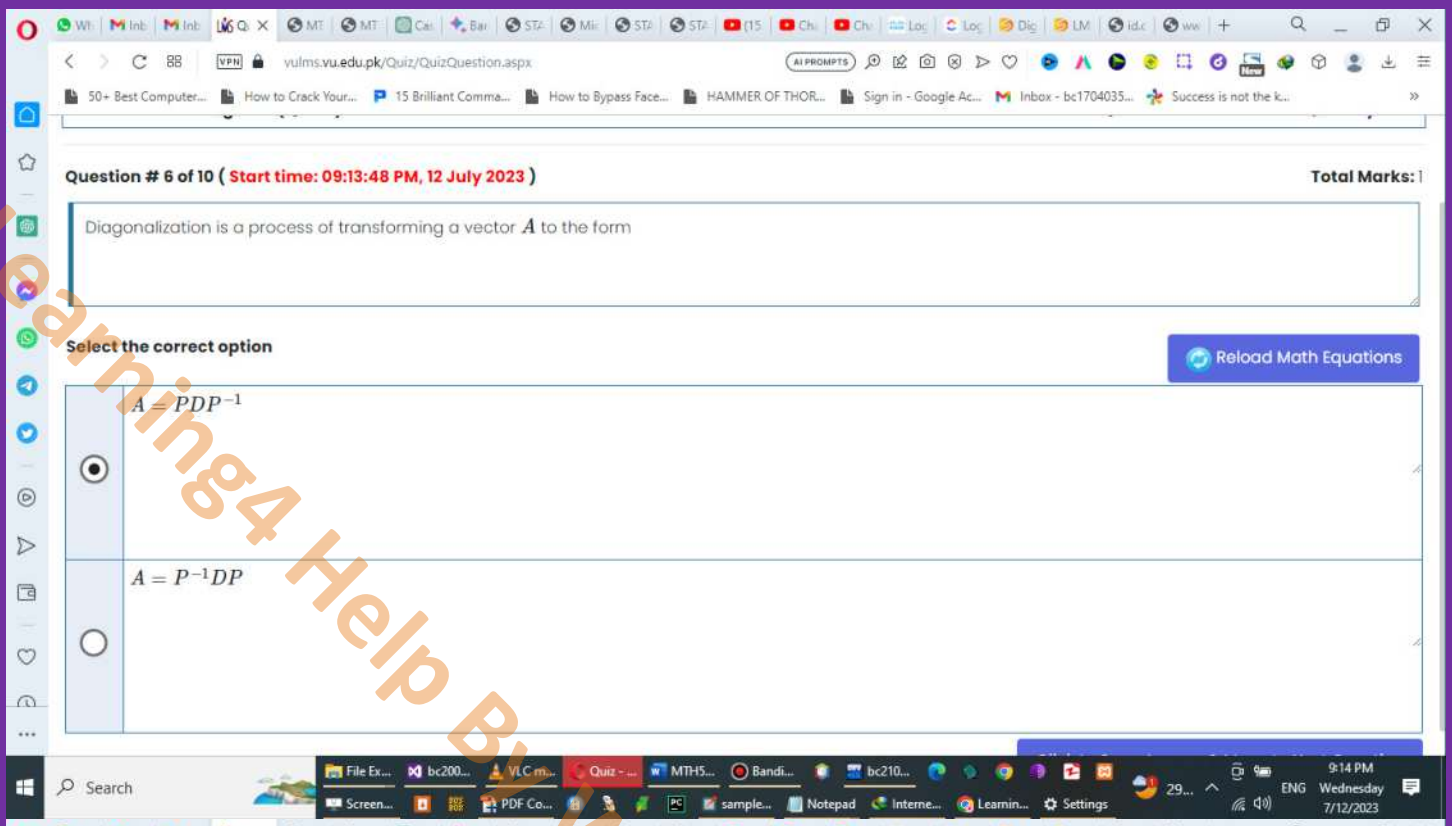


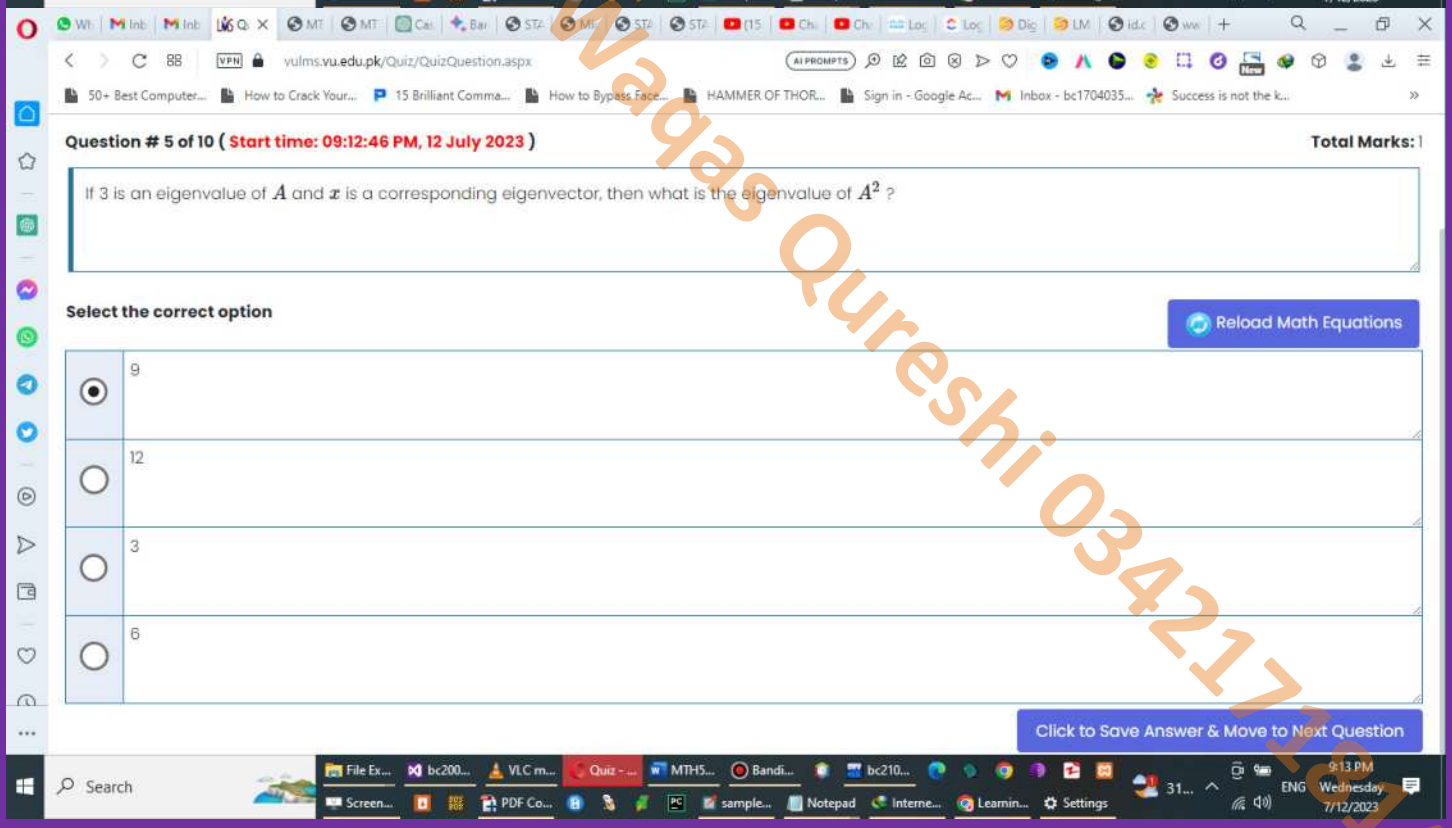
Question # 8 of 10 (Start time: 09:15:56 PM, 12 July 2023) **Total Marks:** 1

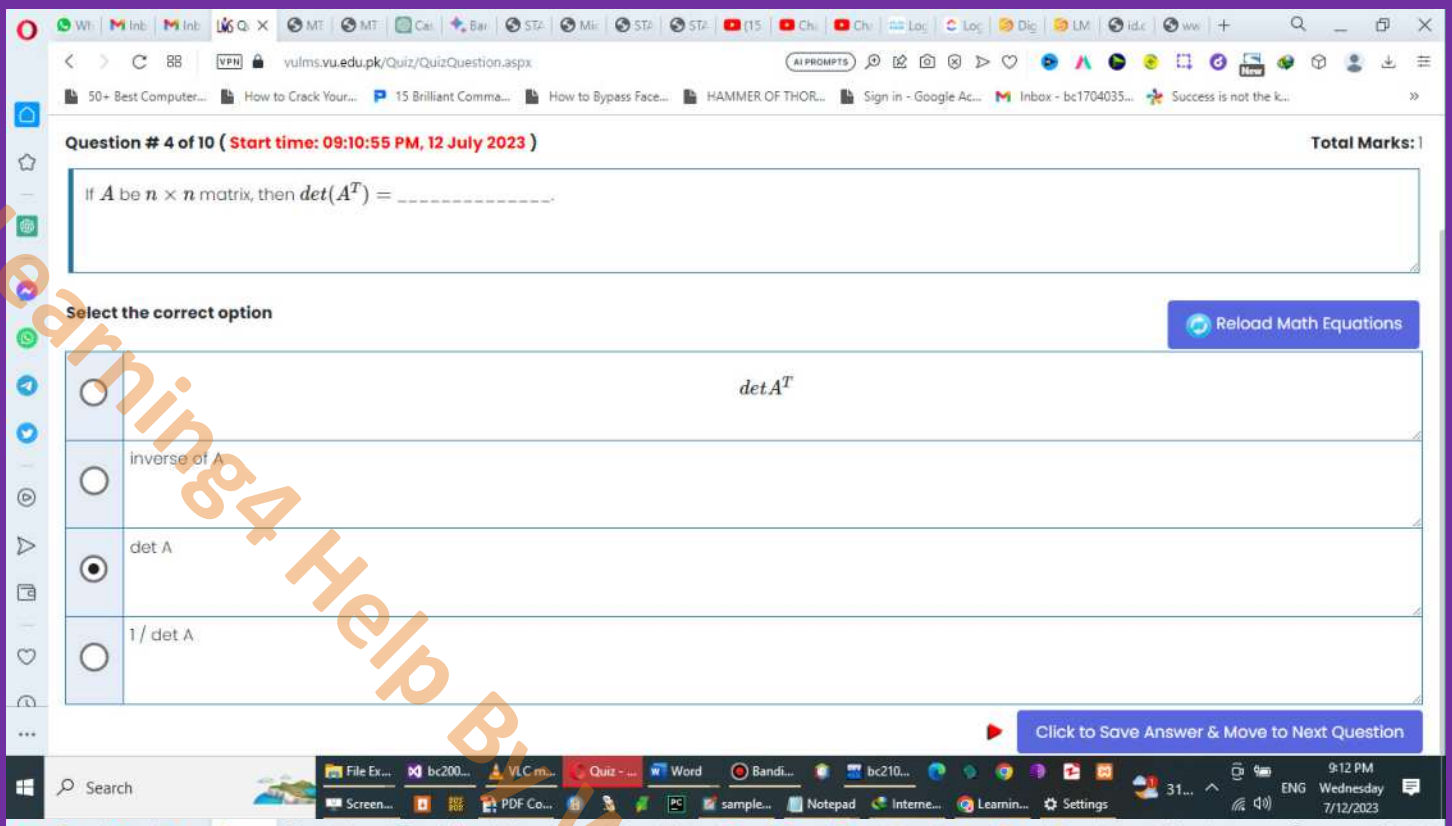
If x+2 is a factor of the characteristic polynomial of matrix C then an eigenvalue of C is

Select the correct option

- 2
- -2
- 0
- 1/2







Question # 4 of 10 (Start time: 09:10:55 PM, 12 July 2023) **Total Marks:** 1

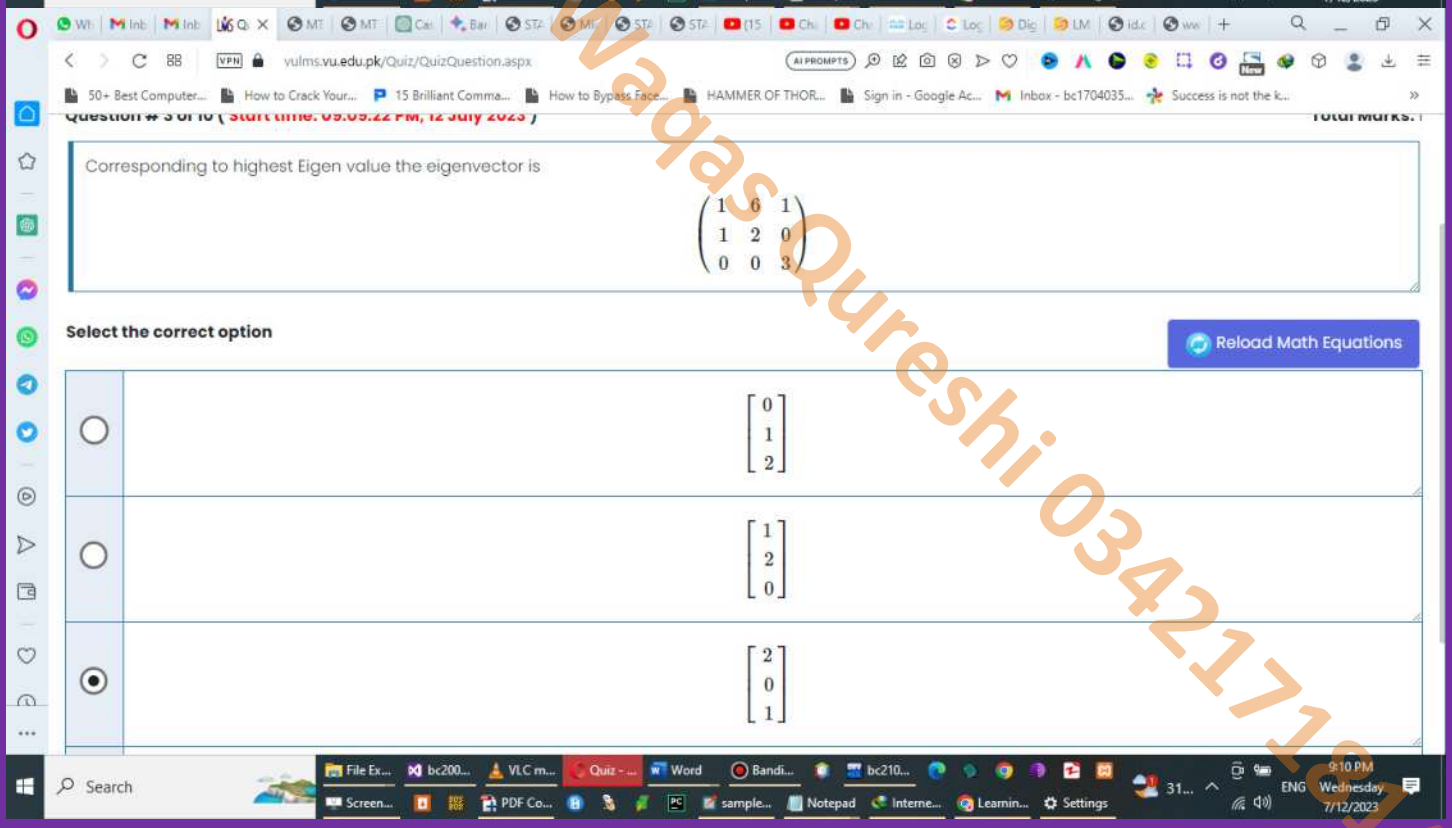
If A be $n \times n$ matrix, then $det(A^T) =$ _____.

Select the correct option

Reload Math Equations

- $detA^T$
- inverse of A
- det A
- 1 / det A

Click to Save Answer & Move to Next Question



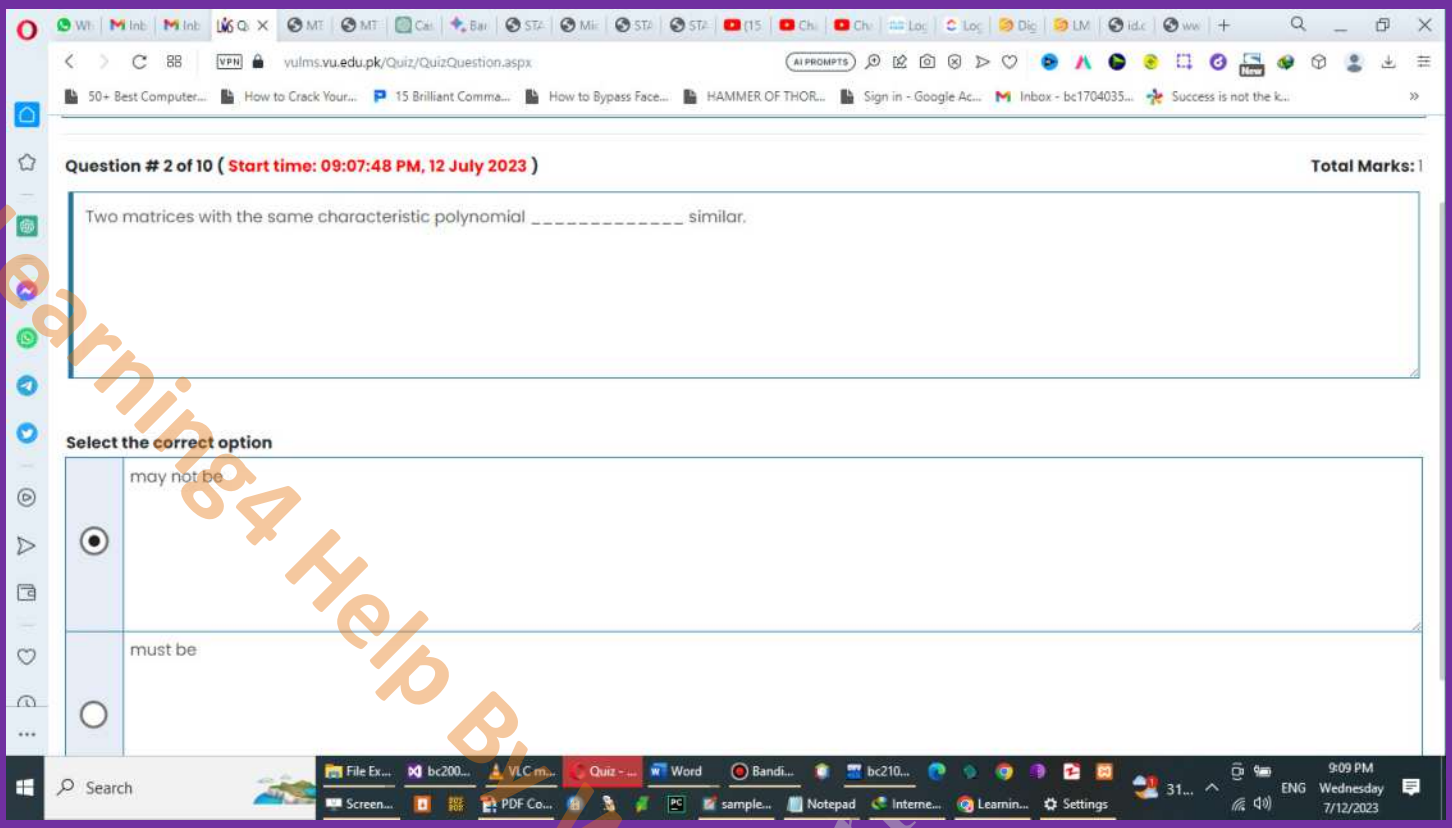
Corresponding to highest Eigen value the eigenvector is

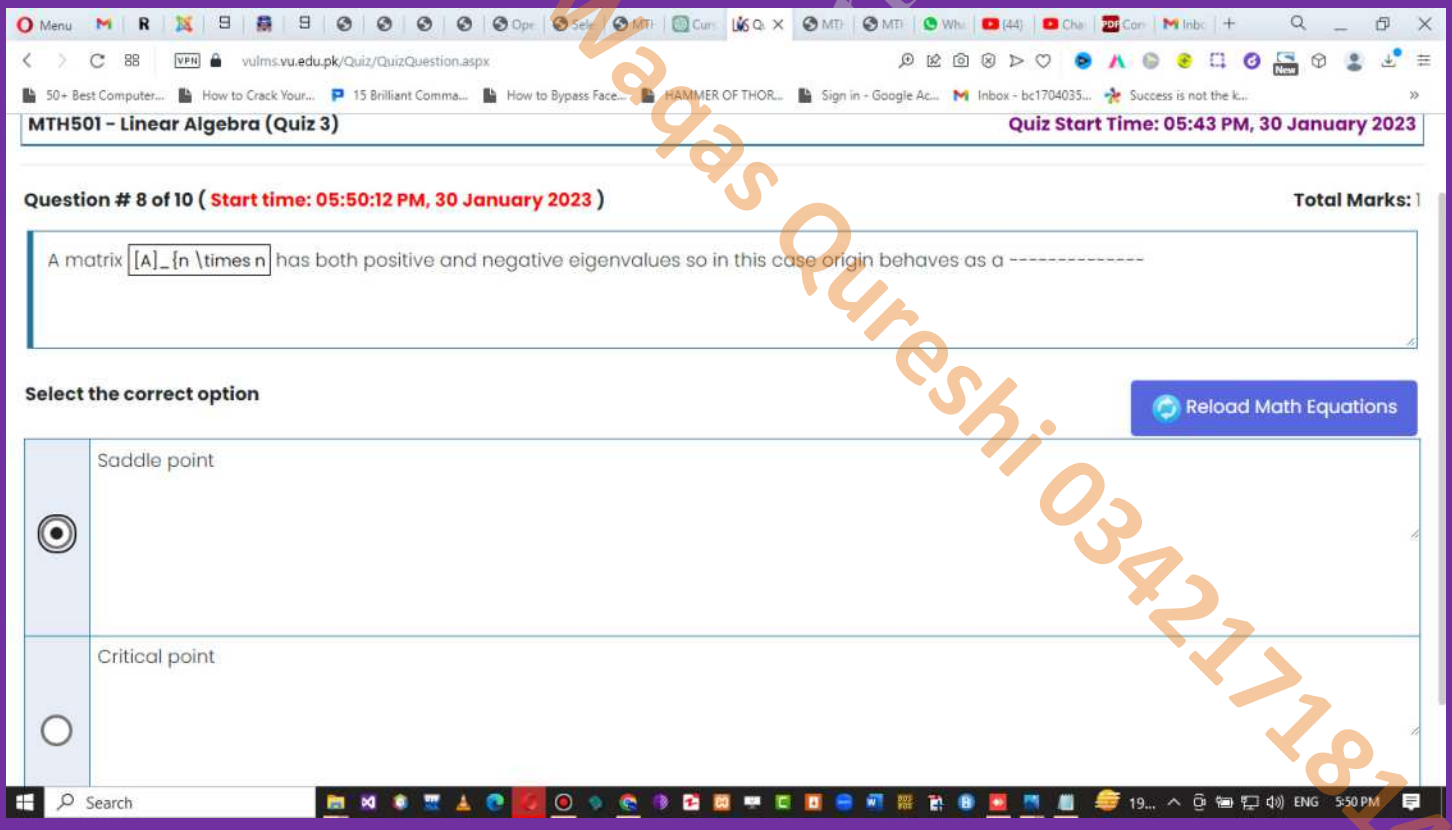
$$\begin{pmatrix} 1 & 6 & 1 \\ 1 & 2 & 0 \\ 0 & 0 & 3 \end{pmatrix}$$

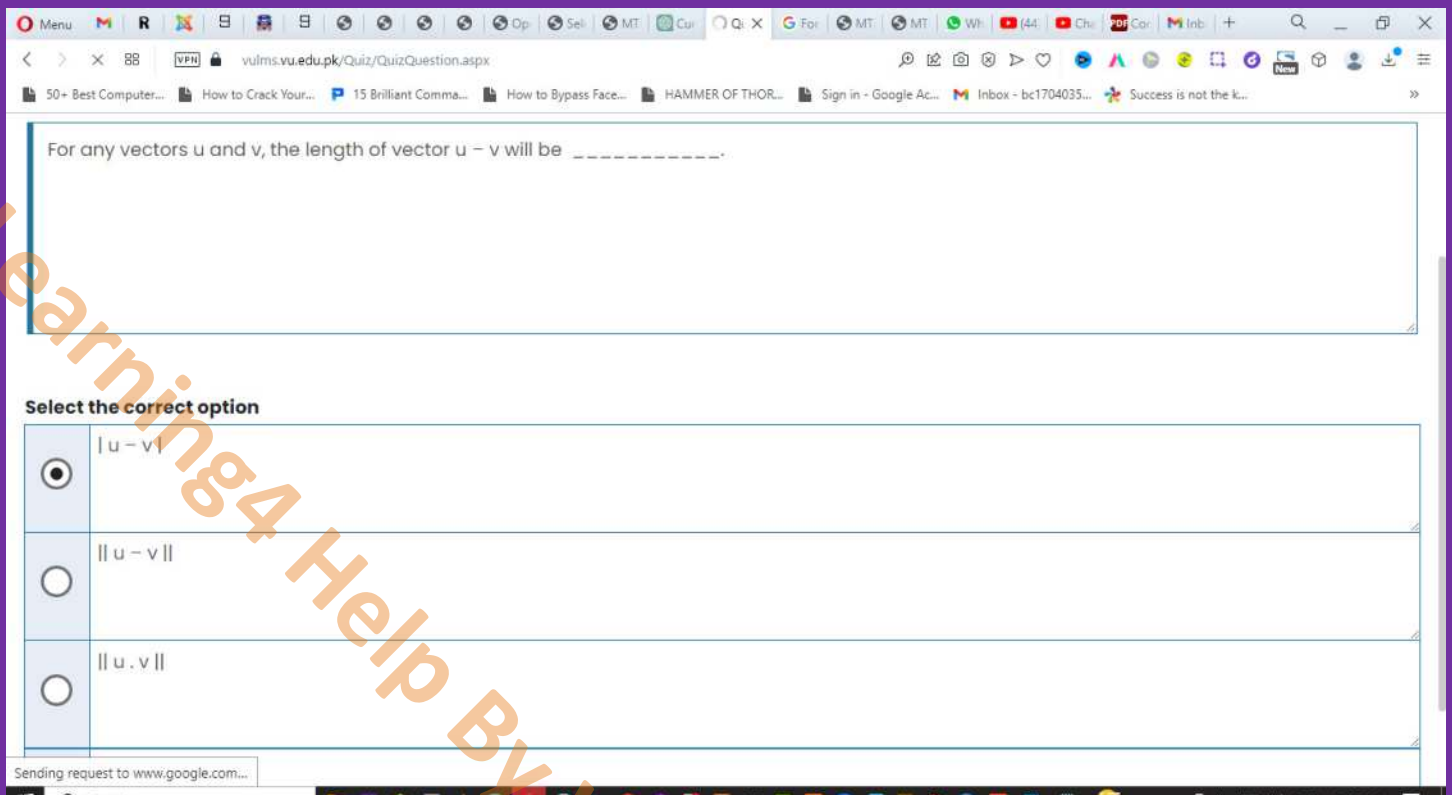
Select the correct option

Reload Math Equations

- $\begin{bmatrix} 0 \\ 1 \\ 2 \end{bmatrix}$
- $\begin{bmatrix} 1 \\ 2 \\ 0 \end{bmatrix}$
- $\begin{bmatrix} 2 \\ 0 \\ 1 \end{bmatrix}$







For any vectors u and v, the length of vector u − v will be _____.

Select the correct option

- (•) | u − v |
- ( ) || u − v ||
- ( ) || u . v ||

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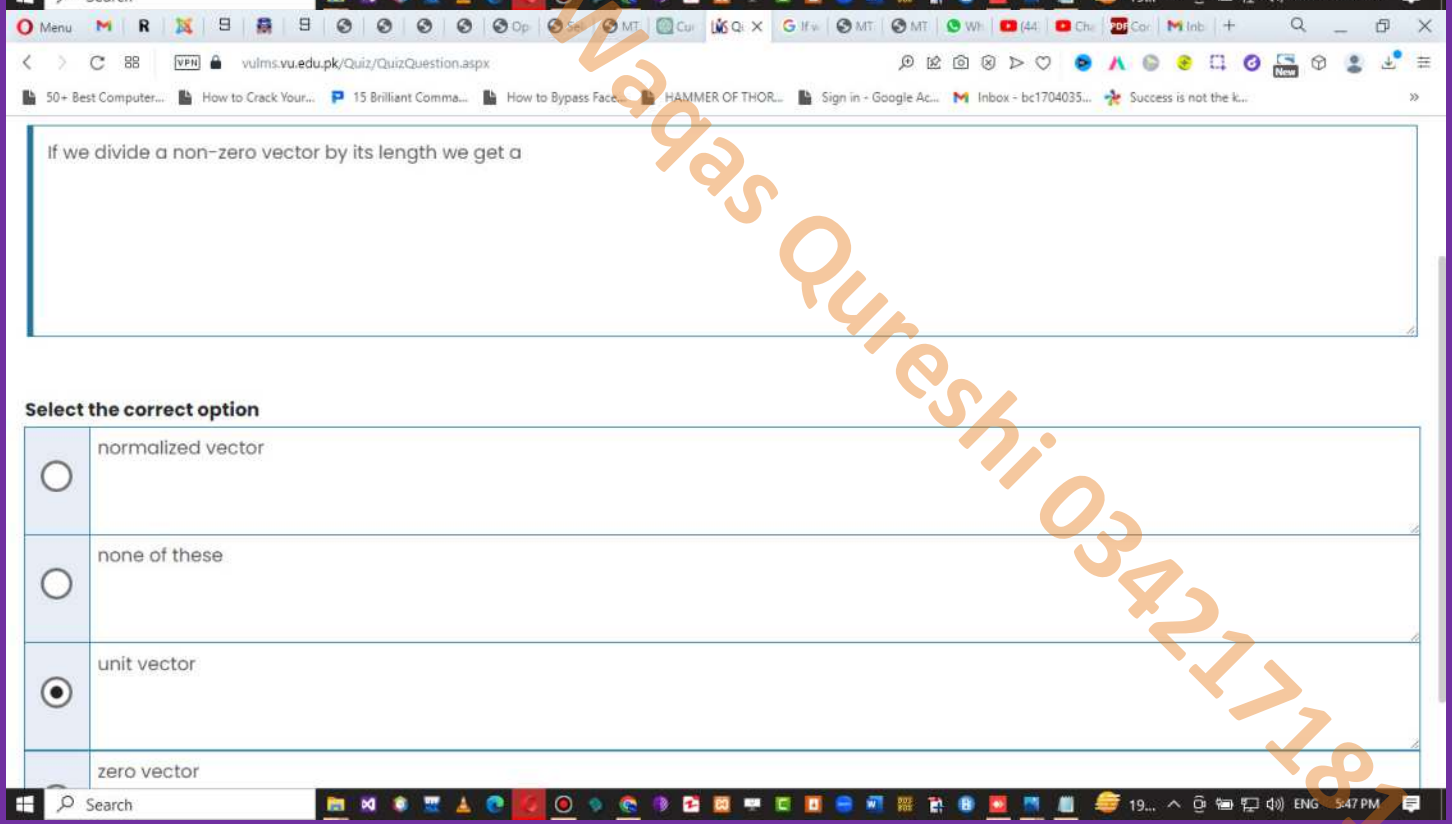
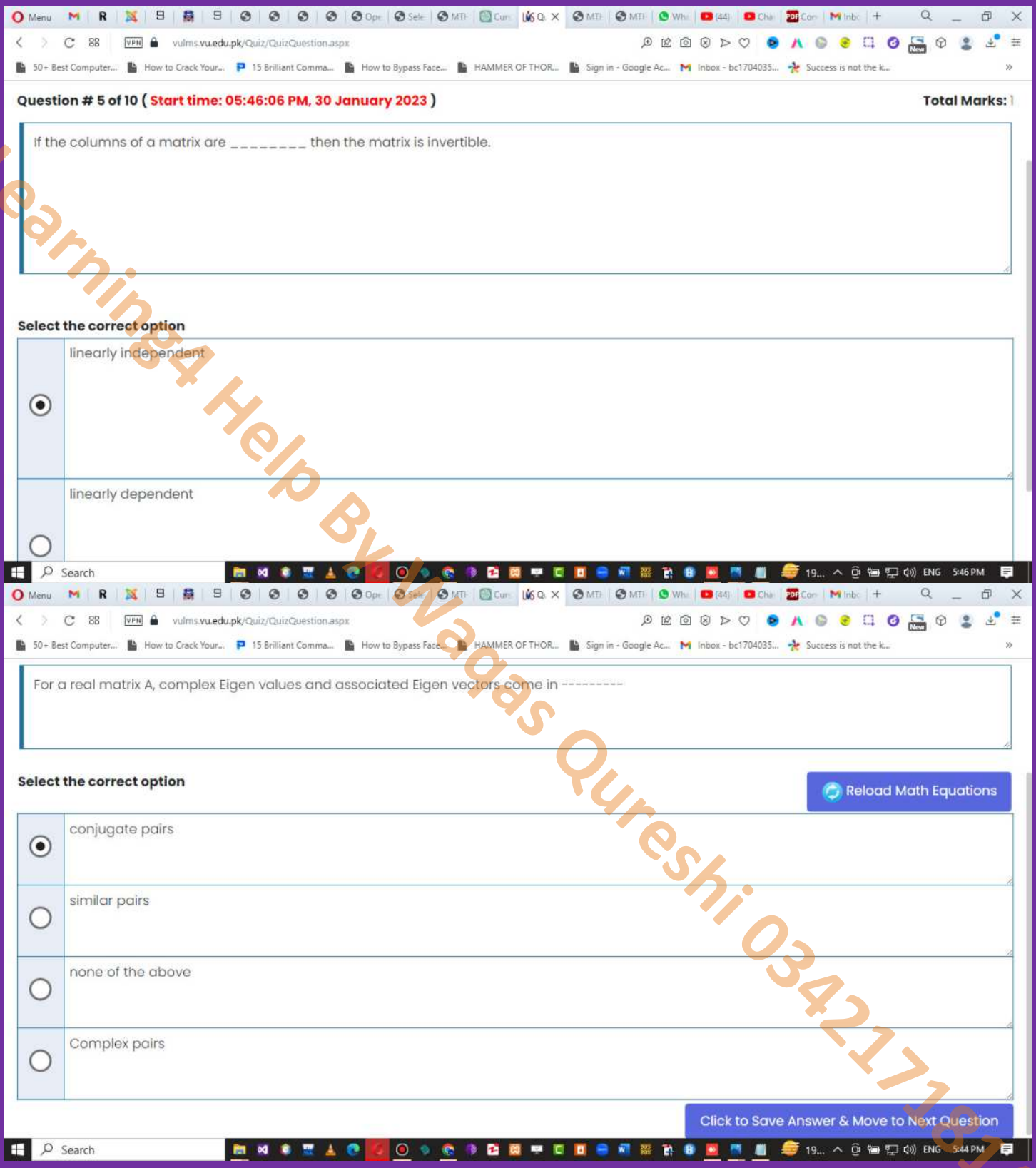
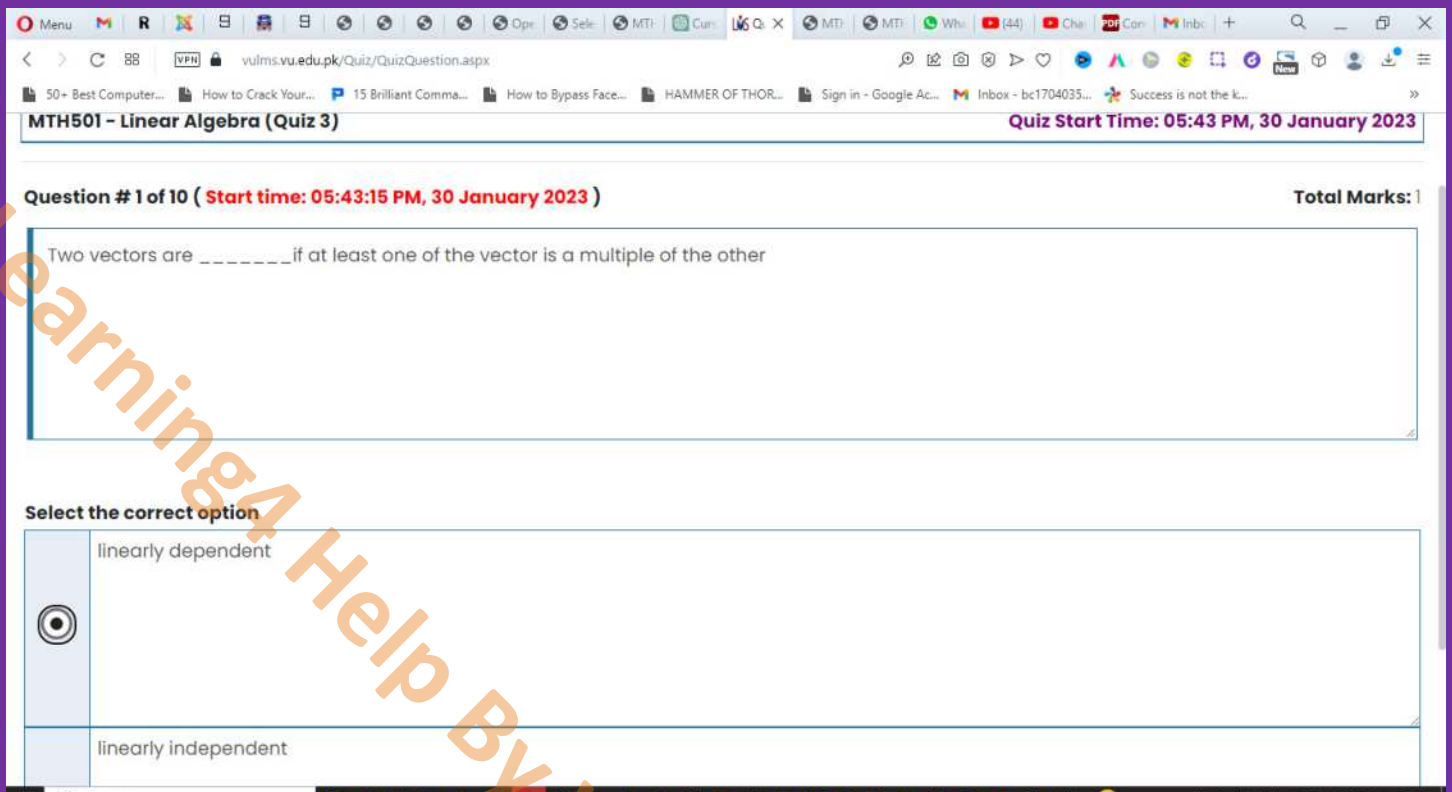


If we divide a non-zero vector by its length we get a

Select the correct option

- ( ) normalized vector
- ( ) none of these
- (•) unit vector
- ( ) zero vector





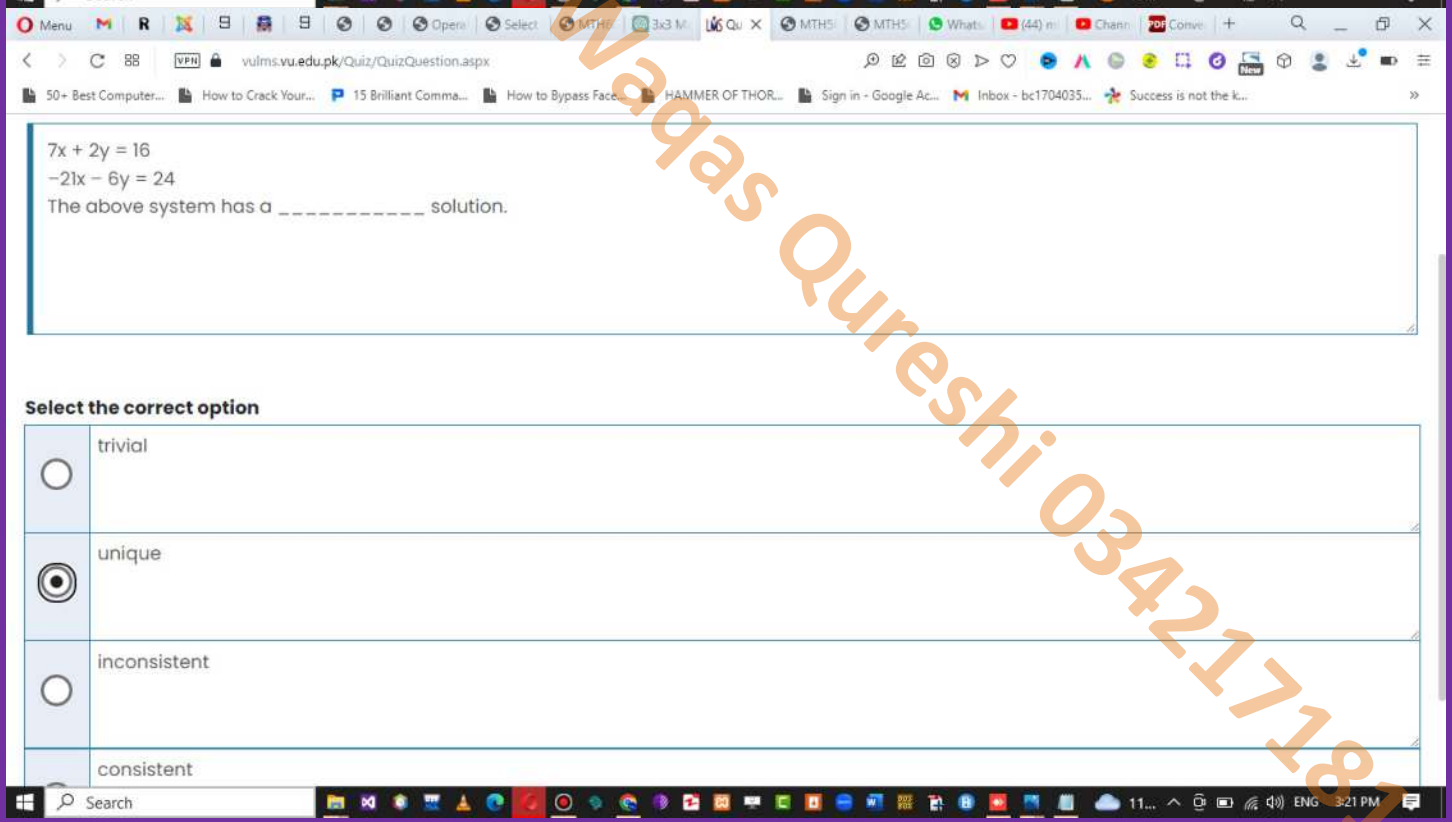
MTH501 - Linear Algebra (Quiz 3) Quiz Start Time: 05:43 PM, 30 January 2023

Question # 1 of 10 (Start time: 05:43:15 PM, 30 January 2023) **Total Marks:** 1

Two vectors are _____if at least one of the vector is a multiple of the other

Select the correct option

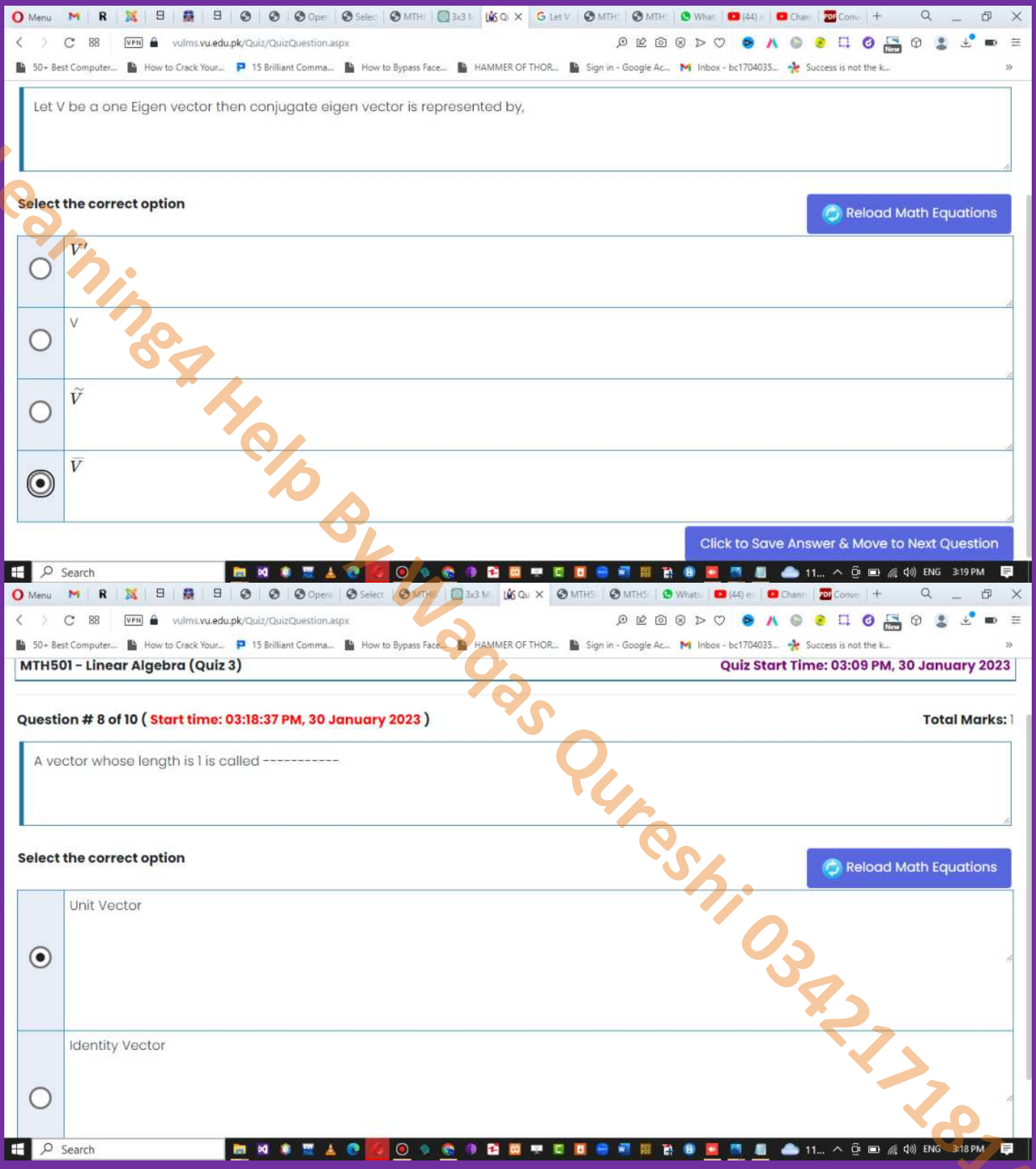
- (●) linearly dependent
- ( ) linearly independent

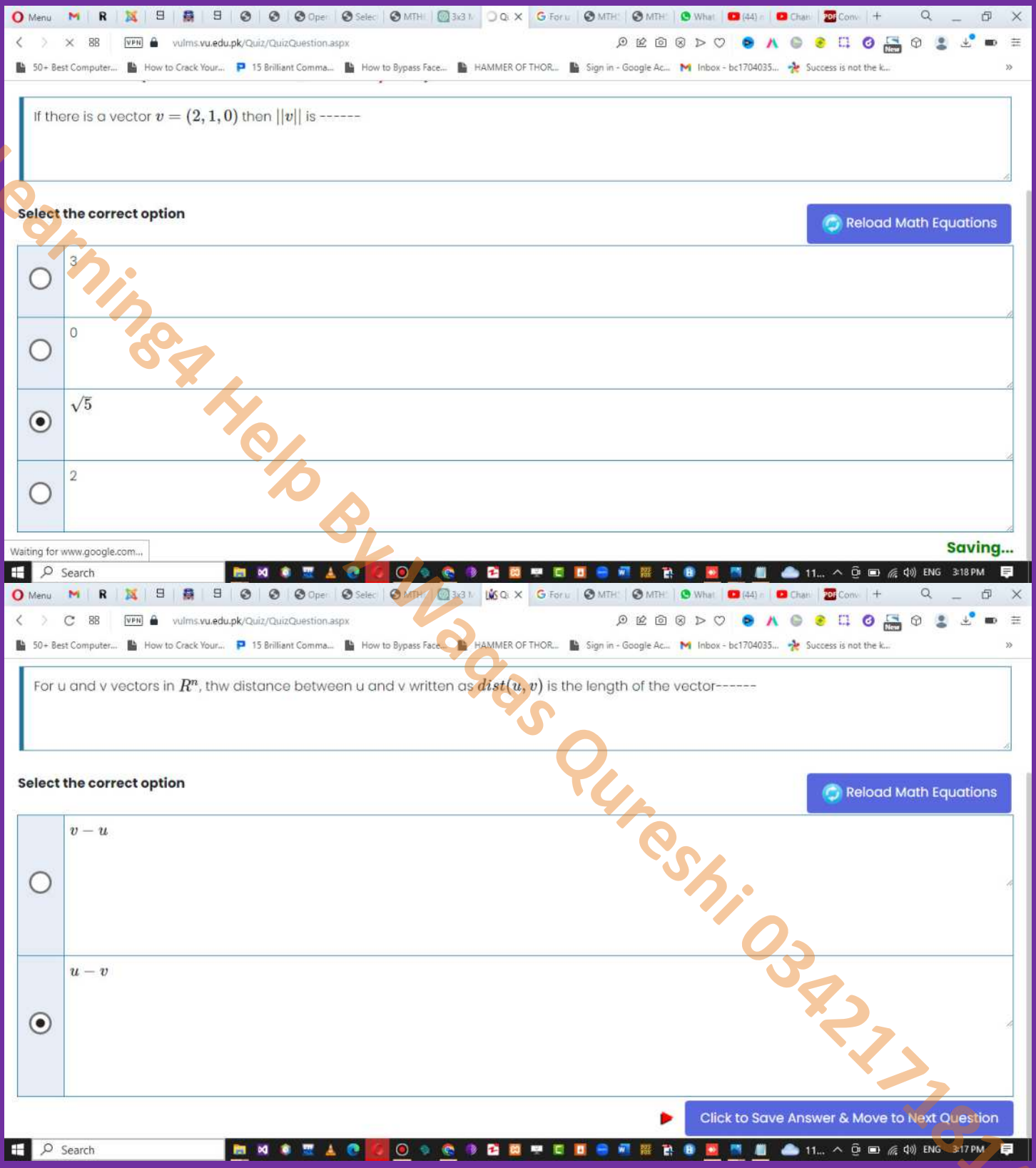


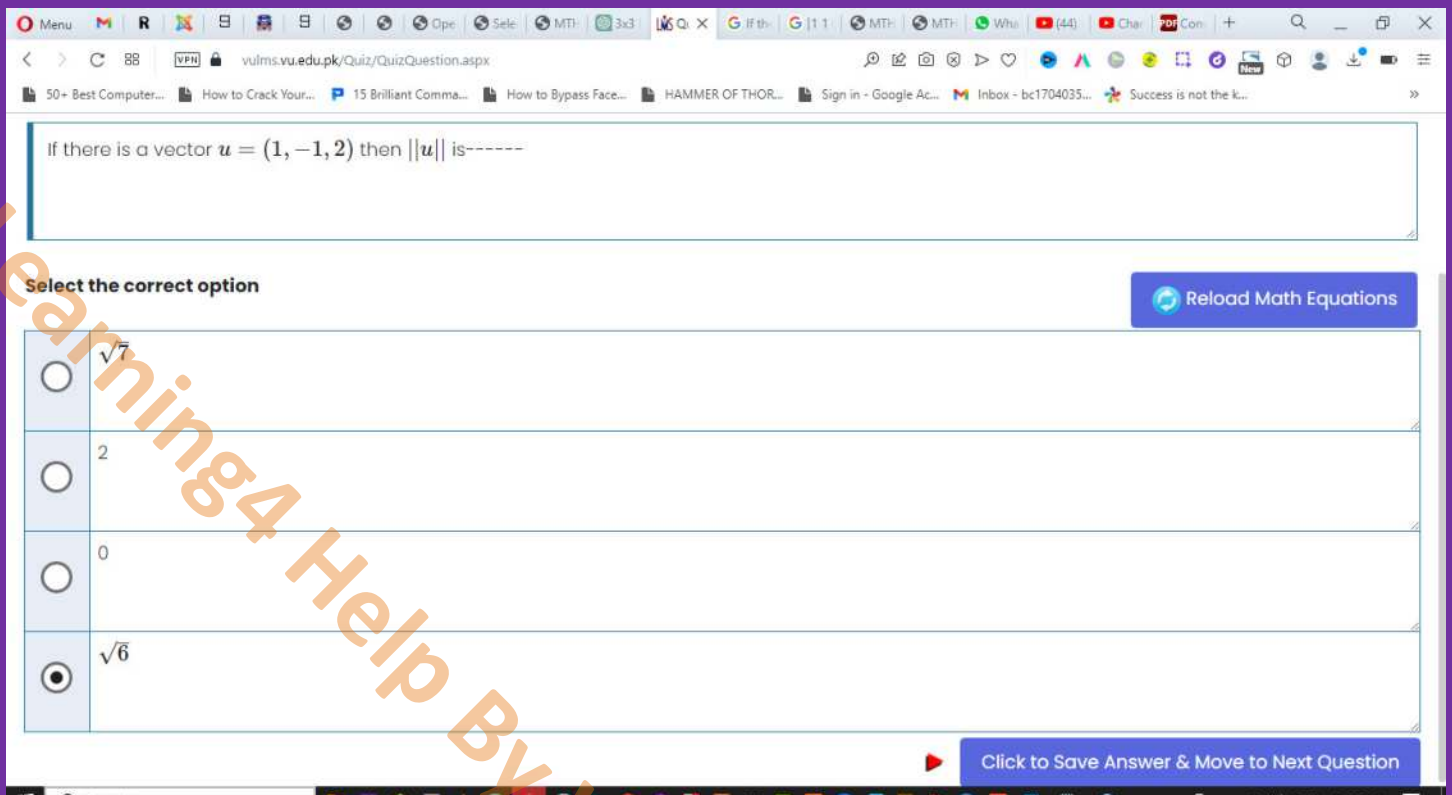
7x + 2y = 16
−21x − 6y = 24
The above system has a _____ solution.

Select the correct option

- ( ) trivial
- (●) unique
- ( ) inconsistent
- ( ) consistent







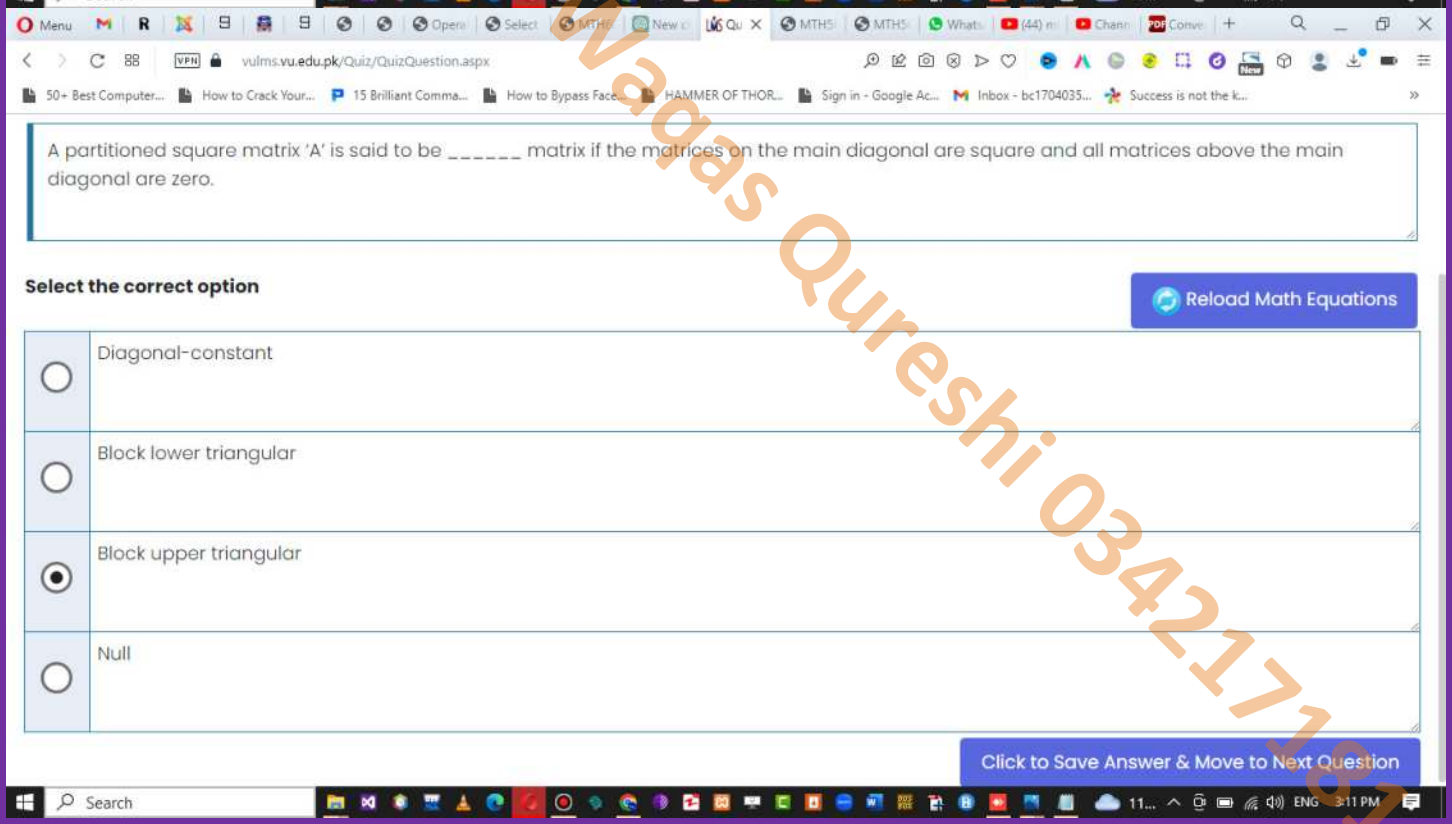
If there is a vector $u = (1, -1, 2)$ then $||u||$ is------

Select the correct option

Reload Math Equations

- $\sqrt{7}$
- 2
- 0
- $\sqrt{6}$

Click to Save Answer & Move to Next Question



A partitioned square matrix 'A' is said to be _____ matrix if the matrices on the main diagonal are square and all matrices above the main diagonal are zero.

Select the correct option

Reload Math Equations

- Diagonal-constant
- Block lower triangular
- Block upper triangular
- Null

Click to Save Answer & Move to Next Question