National Forensic Sciences University
Knowledge | Wisdom | Fulfilment
An Institution of National Importance
(Ministry of Home Affairs, Government of India)

Assignment:3 ➡ Cayley-Hamilton Theorem

School of Cyber Security and Digital Forensics

Sr. No.	Questions
1	Define types of matrices with examples.
2	*Verify* Cayley-Hamilton theorem for $A=\begin{bmatrix}2 & -1\\ 6 & 5\end{bmatrix}$
3	*Verify* Cayley-Hamilton theorem for $A=\begin{bmatrix}-3 & -4\\ 7 & 9\end{bmatrix}$
4	*Verify* Cayley-Hamilton theorem and find A^{-1}, A^{-2} for $A=\begin{bmatrix}1 & -1\\ 2 & 3\end{bmatrix}$
5	*Verify* Cayley-Hamilton theorem and find A^{-1}, A^{2} for $A=\begin{bmatrix}2 & 4\\ -3 & -7\end{bmatrix}$
6	*Verify* Cayley-Hamilton theorem for $A=\begin{bmatrix}1 & 1 & 2\\ 3 & 1 & 1\\ 2 & 3 & 1\end{bmatrix}$ and hence find A^{4}.
7	*Verify* Cayley-Hamilton theorem for $A=\begin{bmatrix}1 & 3 & 7\\ 4 & 2 & 3\\ 1 & 2 & 1\end{bmatrix}$ and hence find A^{-1}.