Step-1

The eigenvalues of either the upper or the lower triangular matrix are nothing but the diagonal entries.

Consider a matrix $A=\begin{bmatrix} B & C \\ 0 & D \end{bmatrix}$ where B has eigenvalues $1,2,3$, C has eigenvalues $4,5,6$ and D has eigenvalues $7,8,9$.

Step-2

The objective is to find the eigenvalues of matrix A.

It is known that product of the eigenvalues of the matrix is determinant of the matrix so determinant of the matrices B and D are $(1)(2)(3)$ and $(7)(8)(9)$ respectively.

The determinant of the matrix A is the product of determinants of the matrices B and D.

So determinant of the matrix is $(1)(2)(3)(7)(8)(9)$.

Since determinant is the product of the eigenvalues so it can be said that the numbers $1,2,3,7,8,9$ are eigenvalues of the matrix A.

Hence, the eigenvalues of A are $\boxed{1,2,3,7,8 \text{ and } 9}$.