Step-1

Consider V be a vector space. A subspace is itself a vector space under the same operation as defined on the vector space V.

Step-2

(a)

Consider the subspace of $\mathbf{R}^3$. Objective is to describe the subspace of $\mathbf{R}^3$ spanned by the two vectors $(1,1,-1)$ and $(-1,-1,1)$.

For this consider $\alpha \in \mathbf{R}^3$ then,

$$\begin{aligned}\alpha &= a(1,1,-1)+b(-1,-1,1)\\ &= a-b, a-b, -a+b\end{aligned}.$$

Thus, the spanning space is equal to $\{(a-b), a-b, -a+b / a, b \in R\}$.

This is a line $\mathbf{R}^3$.

Step-3

(b)

Consider the subspace of $\mathbf{R}^3$. Objective is to describe the subspace of $\mathbf{R}^3$ spanned by the three vectors $(0,1,1)$ and $(1,1,0)$ and $(0,0,0)$.

The subspace of $\mathbf{R}^3$ spanned by the three vectors $(0,1,1)$ and $(1,1,0)$ and $(0,0,0)$ is a plane in $\mathbf{R}^3$.

Step-4

(c)

Consider the subspace of $\mathbf{R}^3$. Objective is to describe the subspace of $\mathbf{R}^3$ spanned by the columns of a 3 by 5 echelon matrix with 2 pivots.

This is a plane in $\mathbf{R}^3$.

Step-5

(d)

Consider the subspace of $\mathbf{R}^3$. Objective is to describe the subspace of $\mathbf{R}^3$ spanned by all vectors with positive component.

The span of all vectors with positive component will generate $\mathbf{R}^3$.