

Step-1

We have

$(x, y, z), (1, 1, 0)$ and $(1, 2, 1)$ lie on a plane through the origin. i.e

If $P(x, y, z), Q(1, 1, 0), R(1, 2, 1)$ and $O(0, 0, 0)$ are coplanar.

Then we get $\overline{OP}, \overline{OQ}, \overline{OR}$ are coplanar vectors and hence
$$\begin{vmatrix} x & y & z \\ 1 & 1 & 0 \\ 1 & 2 & 1 \end{vmatrix} = 0$$

Step-2

And this gives the plane equation as

$$x(1-0) - y(1-0) + z(2-1) = 0$$

$$\Rightarrow x - y + z = 0$$

Thus, the plane equation is $\boxed{x - y + z = 0}$