

## Step-1

Let  $\mathbf{P}$  be the plane in  $\mathbf{R}^3$  with equation  $x + y - 2z = 4$ .

The origin  $(0, 0, 0)$  is not in  $\mathbf{P}$ .

We have to find two vectors in  $\mathbf{P}$  such that their sum is not in  $\mathbf{P}$ .

## Step-2

Let  $(0, 0, -2), (2, 2, 0)$  be the vectors in  $\mathbf{P}$ .

Now

$$\begin{aligned}(0, 0, -2) + (2, 2, 0) &= (0 + 2, 0 + 2, -2 + 0) \\ &= (2, 2, -2)\end{aligned}$$

The vector  $(2, 2, -2)$  does not a vector in  $\mathbf{P}$

Because  $x + y - 2z = 2 + 2 - 2(-2) = 8$

Hence the required two vectors are  $\boxed{(0, 0, -2), (2, 2, 0)}$ .