

Solution (#753) A basis is $(3, 2, 1, 0)$, $(-2, -1, 0, 1)$ and

$$(4, 3, 2, 1) = 2(3, 2, 1, 0) + 1(-2, -1, 0, 1)$$

so that $(4, 3, 2, 1)$ has co-ordinates $(2, 1)$ with respect to the given basis.