Project 1: Span
Individual Assignments
April 13, 2024

Version: 445

$v_1 = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -2 \\ -4 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -1 \\ -10 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 1 \\ 1 \end{pmatrix}$

Version: 522

$v_1 = \begin{pmatrix} -2 \\ -3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -6 \\ -1 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ -3 \end{pmatrix}$

Version: 555

$v_1 = \begin{pmatrix} -2 \\ -3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -3 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 1 \\ -4 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ -1 \end{pmatrix}$

Version: 658

$v_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 0 \\ -5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$

Version: 769

$v_1 = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -4 \\ -1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 5 \\ -7 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 2 \\ -2 \end{pmatrix}$

Version: 803

$v_1 = \begin{pmatrix} 4 \\ -3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 3 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -1 \\ 4 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ -2 \end{pmatrix}$

Version: 906

$v_1 = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -2 \\ -4 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -5 \\ -6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -4 \\ 2 \end{pmatrix}$

Version: 1108

$v_1 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -2 \\ -3 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ 2 \end{pmatrix}$

Version: 1257

$v_1 = \begin{pmatrix} -4 \\ 2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -5 \\ 10 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$

Version: 1402

$v_1 = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -4 \\ -2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ -2 \end{pmatrix}$

Version: 1415

$v_1 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ -3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -1 \\ 4 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ 2 \end{pmatrix}$

Version: 1526

$v_1 = \begin{pmatrix} -4 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 0 \\ 5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -3 \\ -4 \end{pmatrix}$

Version: 1553

$v_1 = \begin{pmatrix} -3 \\ 2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 7 \\ 1 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ -2 \end{pmatrix}$

Version: 1598

$v_1 = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ -3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -5 \\ -5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 8 \\ -2 \end{pmatrix}$

Version: 1626

$v_1 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 4 \\ -1 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -4 \\ 3 \end{pmatrix}$

Version: 1708

$v_1 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$

Version: 1708

$v_1 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 6 \\ -1 \end{pmatrix}$

Version: 1724

$v_1 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -3 \\ 3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -4 \\ 7 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 1 \\ -3 \end{pmatrix}$

Version: 1724

$v_1 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -3 \\ 3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -4 \\ 7 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 1 \\ -3 \end{pmatrix}$

Version: 1834

$v_1 = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 4 \\ 4 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -7 \\ -10 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 3 \\ 1 \end{pmatrix}$

Version: 1989

$v_1 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -1 \\ 5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -5 \\ -2 \end{pmatrix}$

Version: 2064

$v_1 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -4 \\ 4 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -2 \\ 5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ -1 \end{pmatrix}$

Version: 2079

$v_1 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -3 \\ 0 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 4 \\ -6 \end{pmatrix}$

Version: 2169

$v_1 = \begin{pmatrix} -2 \\ -3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 0 \\ 7 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 1 \\ -1 \end{pmatrix}$

Version: 2169

$v_1 = \begin{pmatrix} -2 \\ -3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 0 \\ 7 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 1 \\ -1 \end{pmatrix}$

(3.) Given $x = \begin{pmatrix} 0 \\ 7 \end{pmatrix}$, find $[x]_B = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$

(4.) Given $[y]_B = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$, find $y = \begin{pmatrix} -3 \\ -1 \end{pmatrix}$

Version: 2211

$v_1 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 3 \\ 1 \end{pmatrix}$

Version: 2330

$v_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 2 \\ 10 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 4 \\ -6 \end{pmatrix}$

Version: 2421

$v_1 = \begin{pmatrix} 1 \\ -4 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -4 \\ -5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ 2 \end{pmatrix}$

(3.) Given $x = \begin{pmatrix} -4 \\ -5 \end{pmatrix}$, find $[x]_B = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$

(4.) Given $[y]_B = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$, find $y = \begin{pmatrix} -5 \\ 6 \end{pmatrix}$

Version: 2452

$v_1 = \begin{pmatrix} -2 \\ 2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -8 \\ -1 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 2 \\ -2 \end{pmatrix}$

Version: 2583

$v_1 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 0 \\ 4 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 4 \\ -4 \end{pmatrix}$

Version: 2602

$v_1 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -6 \\ 2 \end{pmatrix}$

Version: 2750

$v_1 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 7 \\ 5 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 7 \\ 2 \end{pmatrix}$

Version: 2846

$v_1 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 4 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 4 \\ -6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ 2 \end{pmatrix}$

Version: 2901

$v_1 = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 1 \\ -3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -10 \\ 6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 4 \\ -4 \end{pmatrix}$

Version: 2915

$v_1 = \begin{pmatrix} 3 \\ -3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ -3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 4 \\ 0 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ 2 \end{pmatrix}$

Version: 2993

$v_1 = \begin{pmatrix} -3 \\ 3 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -4 \\ -3 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} -1 \\ -6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -2 \\ 1 \end{pmatrix}$

Version: 3057

$v_1 = \begin{pmatrix} -2 \\ -2 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -3 \\ 2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 9 \\ 4 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -3 \\ 1 \end{pmatrix}$

Version: 3087

$v_1 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 4 \\ 0 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$

Version: 3115

$v_1 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 6 \\ -1 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ -4 \end{pmatrix}$

Version: 3154

$v_1 = \begin{pmatrix} -2 \\ -4 \end{pmatrix}$ (red) and $v_2 = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ (blue)

$x = \begin{pmatrix} 1 \\ 6 \end{pmatrix}$ (position vector in Cartesian coordinates)

1st coordinate in v_1 direction and 2nd in v_2 direction: $\begin{pmatrix} -1 \\ -1 \end{pmatrix}$
