1 Projection along & Projection Orthogonal

3. Find the projection of $[1, 2, 3]$ along $[-1, 1, 1]$.
4. Find the projection of $[1, 2, 3]$ orthogonal to $[-1, 1, 1]$.

2 Projection orthogonal to a space

5. Find the projection of $[5, 2]$ orthogonal to the space spanned by the two vectors $[3, 4]$ and $[-7, 17]$ (which is the same as the space spanned by $[3, 4]$ and $[-12.64, 9.48]$, and the latter two vectors are orthogonal). Show each successive value of the variable $b$ (as in the code for project_orthogonal).
6. Find the projection of $[1, 2, 3]$ orthogonal to the space spanned by the two vectors $[-1, 1, 1]$ and $[7, 5, 4]$ (which is the same as the space spanned by $[-1, 1, 1]$ and $[7.67, 4.33, 3.33]$, and the latter two vectors are orthogonal). Show each successive value of the variable $b$ (as in the code for project_orthogonal).

3 Orthogonalization Practice

Finally, orthogonalize each of the following sets of vectors. Show your work by showing the results of each call to project_orthogonal.
7. $\{[3, 4], [5, 2], [-7, 17]\}$
8. $\{[1, 2, 3], [-1, 1, 1], [7, 5, 4]\}$