The Gram-Schmidt orthogonalization process for computing an orthonormal basis $B_{ON} = \{w_1, w_2, \dots, w_n\}$ for a finite dimensional inner product space V with basis $B = \{u_1, u_2, \dots, u_n\}$ is as follows:

Step 1 : Let $v_1 = u_1$

Step 2 : Compute $v_2, v_3, \dots, v_n$ by the formula:

$$v_2 = u_2 - \mathrm{Proj}_{v_1}(u_2).$$

$$v_3 = u_3 - \mathrm{Proj}_{v_2}(u_3) - \mathrm{Proj}_{v_1}(u_3)$$

and soon.

The set $\{v_1, v_2, \dots, v_n\}$ is an orthogonal basis for V.

Step 3: Let $w_i = \dfrac{v_i}{\|v_i\|}$.

Then, $B_{ON} = \{w_1, w_2, \dots, w_n\}$ is an orthonormal basis for V.