Even In most refined representation of Clifford algebra, it is difficutl to bury the traces of supermathematics, i.e. $Z_2$ grading. The following lemma

$$\texttt{Cliff}\left((Q_1, V_1)\right) \oplus (Q_2, V_2) = \texttt{Cliff}(Q_1, V_1)\hat{\otimes}\texttt{Cliff}(Q_2)\,,$$

where $\texttt{Cliff}(Q,V)$ is the Clifford algebra corresponding to vector space $V$ equipped with bilinear form $Q$, and $\hat{\otimes}$ is $Z_2$ graded tensor product, (not usual!)! It is very important for the classification theorem

*Clifford algebra* $\texttt{Cliff}(Q,V)$ *is isomorphic to wedge product of* $p$ *algberas of doube numbers* $(a+b\varepsilon,\ \varepsilon^2=1)$, $r-p$ *algberas of complex numbers* $(a+b\varepsilon,\ \varepsilon^2=-1)$, *and* $n-r$ *algberas of dual numbers* $(a+b\varepsilon,\ \varepsilon^2=0)$, *where* $r$ *is the rank of the form* $Q$, $(p, r-p)$ *is the signature of the form,* $n$ *is the dimension of vector space* $V$, *i.e.* $p, q, r$ *are integers such that quadratic form* $Q$ *in* $V$ *can be reduced to the form*

$$Q = x_1^2 + \ldots + x_p^2 - x_{p+1}^2 - \ldots x_r^2$$

*in some linear coordinates*

This lemma reveals $Z_2$ grading.

When proving this lemma we use that element $\mathbf{x}\oplus\mathbf{y}$ goes to the element $\mathbf{x}\otimes 1 + 1\otimes\mathbf{y}$

$$(\mathbf{x}\otimes 1)(1\otimes\mathbf{y}) = -(\mathbf{x}\otimes 1)(1\otimes\mathbf{y})$$

hence

$$\left((\mathbf{x}\otimes 1) + (1\otimes\mathbf{y})\right)^2 = (\mathbf{x}\otimes 1)^2 + (1\otimes\mathbf{y})^2\,.$$