**Vedic Algorithm for multiplication:**

Urdhva Tiryakbhyam (Vertically and Crosswise), deals with the multiplication of numbers. This Sutra has been traditionally used for the multiplication of two numbers in the decimal number system. In this project, we apply the same idea to the binary number system to make it compatible with the digital hardware. Let us first illustrate this Sutra with the help of an example in which two decimal numbers are multiplied. Line diagram for the multiplication of two numbers (234× 316) is shown. The digits on the two ends of the line are multiplied and the result is added with the previous carry. When there are more lines in one step, all the results are added to the previous carry. The least significant digit of the number thus obtained acts as one of the result digits and the rest act as the carry for the next step. Initially the carry is taken to be zero.

Multiplication using Urdhva Tiryakbhyam:

