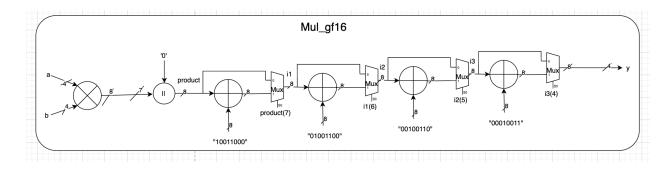
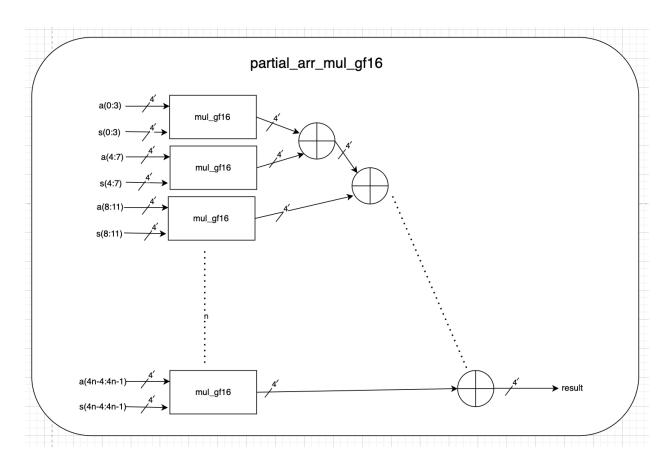
## **Detailed Block Diagrams**

This module is used to multiply a,b with modulo reduction of x<sup>4</sup>+x+1 to get 4 bit output y



This module is used to multiply all the elements in a row of array to a column of another array and XOR them to get a 4 bit output result



This module is used to reduce  $z^*4m$  bit value using function  $f(z) = z^{64} + x^3z^3 + xz^2 + x^3$  to get 4m bit output y

