1. Partial product
   1. radix-4 modified booth algorithm
   2. https://books.google.com/books?id=9E-JQk0mPlYC&pg=PA55&lpg=PA55&dq=leapfrog+wallace+tree&source=bl&ots=t-zgF0HTTY&sig=BnvinVY1PL0QPntXaBCgr1ia7Z4&hl=en&sa=X&ved=2ahUKEwiQ5vnewYbeAhVDLKwKHUBmDakQ6AEwCXoECAkQAQ#v=onepage&q=leapfrog%20wallace%20tree&f=false
2. Sign extension
   1. assume to be all negative, and modified the sign bit if positive. Add extra sign sum 1010…1011.