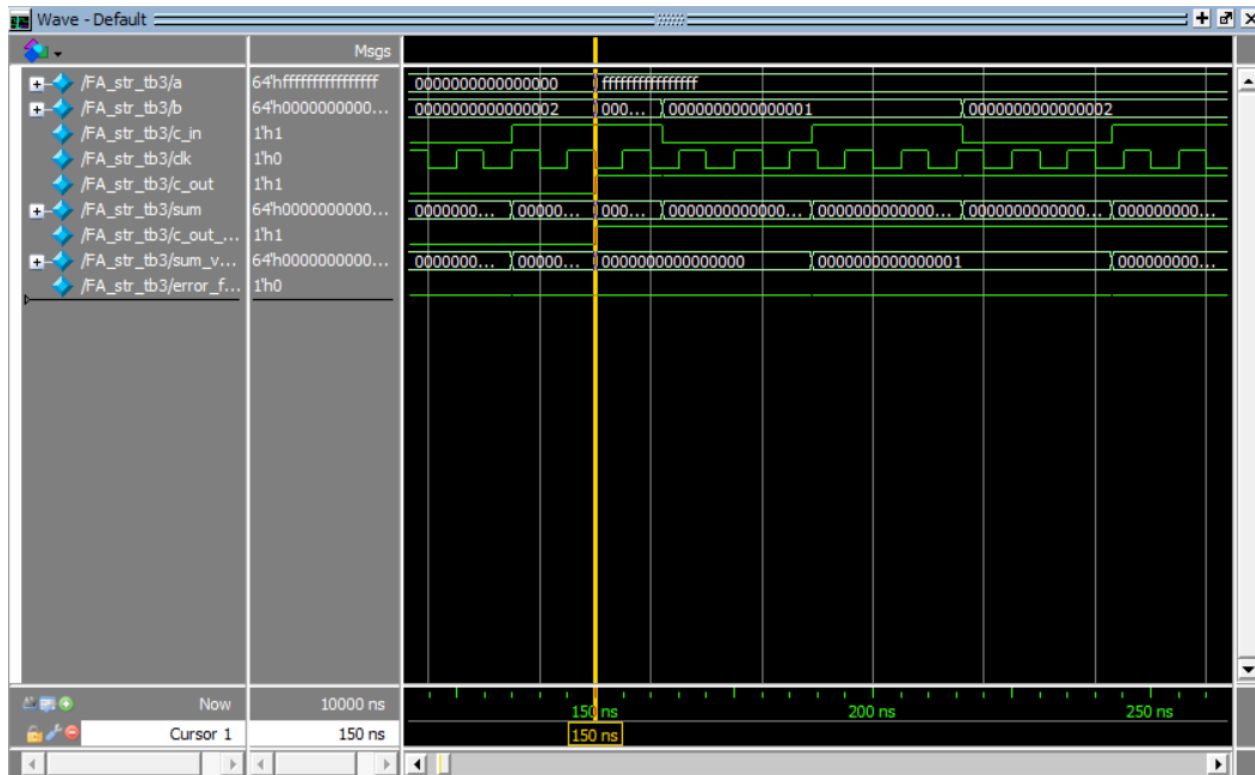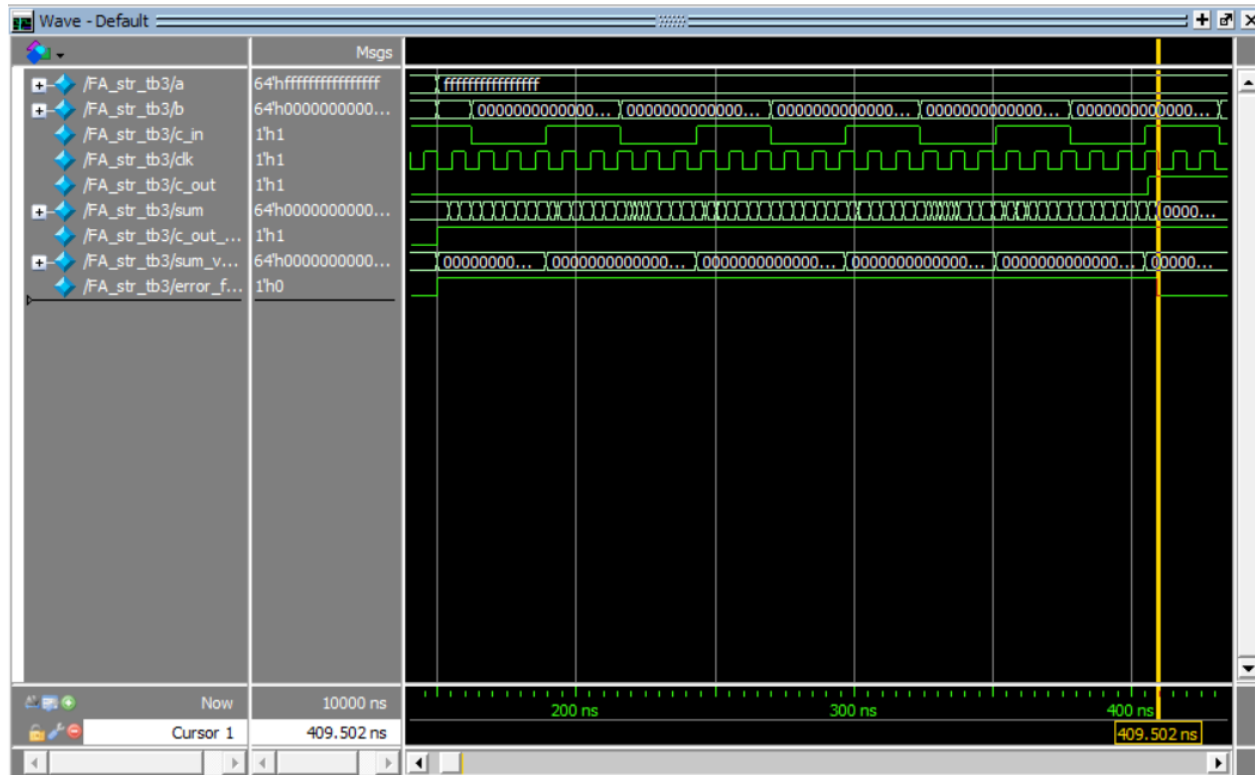This is my ripple carry adder that was made up of a full adder into a 4 bit adder into a 16 bit adder into an 32 bit adder into an 64 bit adder with each one using the previous module to make itself.
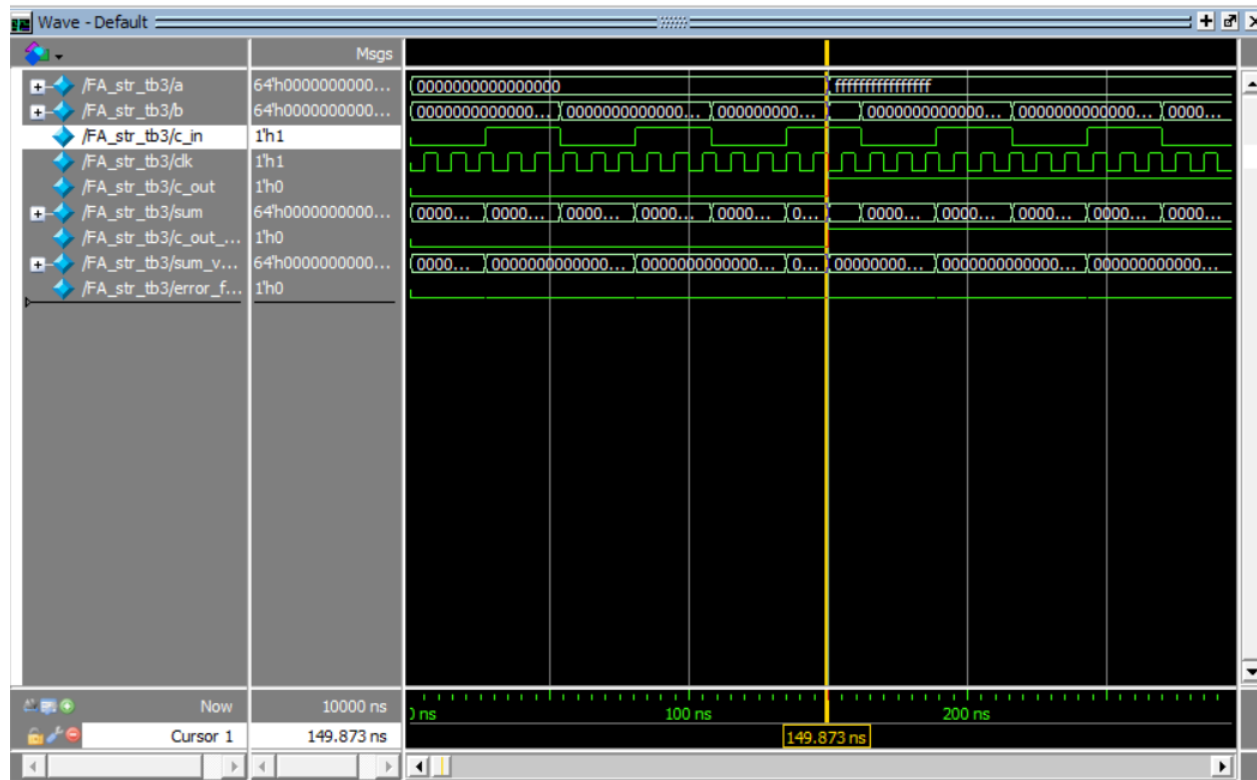

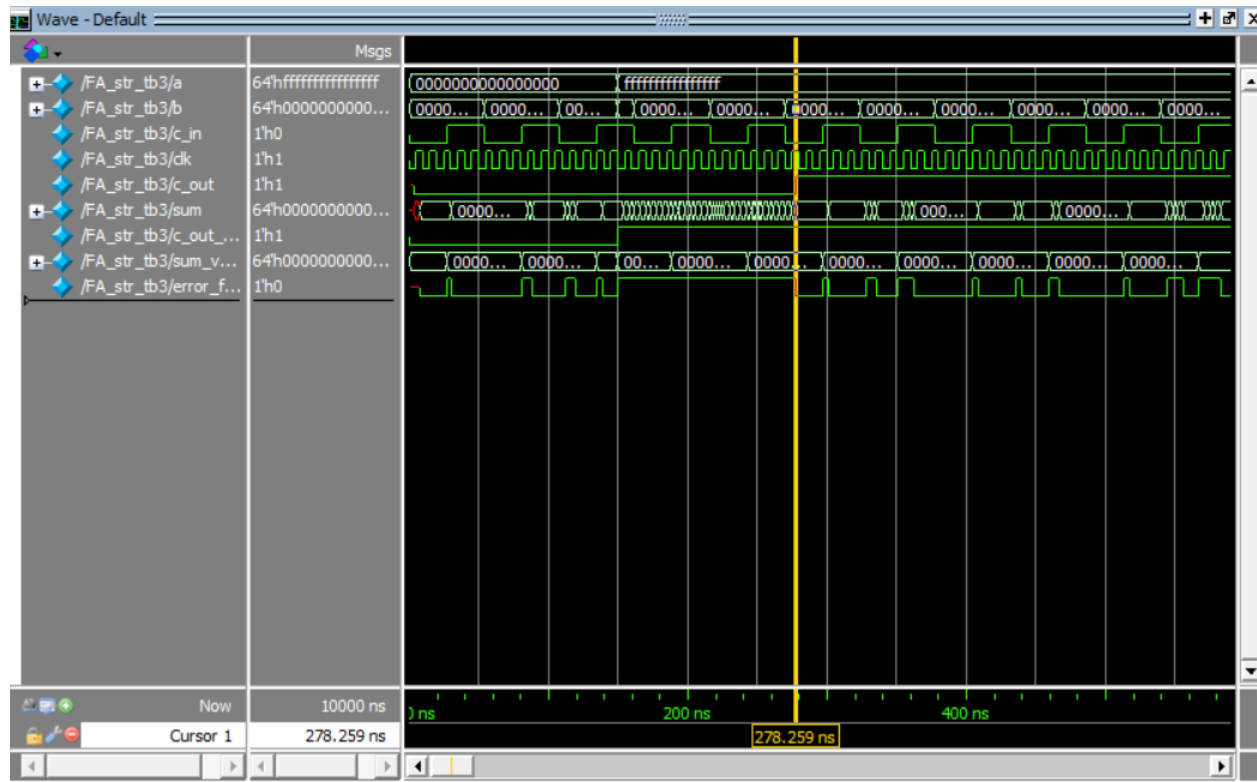This is the waveform without delay, and you can see it's at 150 ns which is what we expect

And this is the waveform with delay, I added 2 for the delay which is why it takes so long

My carry select adder has 2 32 bit adders which is made up as the same ones above, and a 32 bit mux, and a 1 bit mux for the cout.

And here is the waveform without delay

And here is the waveform with delays, you can see it's much faster than the ripple carry adder with the same delay, and this is because it can compute in parallel thanks to the 2 32 bit adder's and the mux that allows us to chose which one we want.