Project 2
CSE341

RippleCarry Adder:

I expanded the code based on what DrSridhar had provided. Dr Srdihar's code is based on a 4-bit Ripple Carry Adder,so I changed the input from a 4 bit to 16 bit. In other words I changed theinput from [3:0] to [15:0]. I also changed the wire from [3:0] to [15:0].Everything else stays the same.

4_BitMagnitude Comparator:

I first designed a 1-Bit magnitudecomparator using Gates, in which I connected the wires and inputs with wo NOTgates, two AND gates and one XNOR gates. I have three outputs here which I callCout[0], Cout[1], Cout[2]. I connect them in this order

1). First is NOT Gate.

2). Second is AND Gate.

3) Third is NOT Gate.

4) Fourth is XNOR Gate.

I then constructed the 4-Bit Magnitudecomparator based on the 1-Bit magnitude comparator. For the 4-Bit comparator Ichanged the inputs to 4 bits, in other words [3:0] a,b.

then assign the output to thecorresponding values as is outlined in the document assignment using nested if statements.

LookAheadadder:

expanded the from a 4bit look ahead adder to a 16 bit look ahead adder, similar to what I did for the Ripple Carry Adder.

For the 4-bit Look Ahead adder I firstcreated variable G that combines the inputs of A and B with an And gate. I thencreated variable P that combines the inputs of A and B into an Or Gates. I then assign the different outputs as is indicated/outlined in my program.

First of all C[0] is assigned to Cin. Andthen C1 is assigned to G[0], P[0] and C[0]. This list goes on and on until thepoint we reach the 16 bit conditions.