Post Lab Questions:

1. Describe any problems you may have encountered when you modified the original blend implementation to include pipelining. (*5 points*)
2. Compare and contrast a D flip-flop with a register. What are their differences and when should one be used as compared to the other in a design. Which requires more transistors to implement and why? (*10 points*)
3. Define setup time and hold time? (*5 points*)
4. What is Pipelining? What is latency? You have been given the of the Multiply Accumulate circuit (MAC) whose block diagram is shown in Figure 1. Your boss wants you to speed up the MAC by pipelining it. Include a block diagram, which shows how you accomplish this job. Indicate the latency of the modified MAC. The block diagram should be edited using any computer-aided applications (MS Word or Paint). **Everything must be typed; NOTHING handwritten will be accepted.** (*5 + 15 points*)
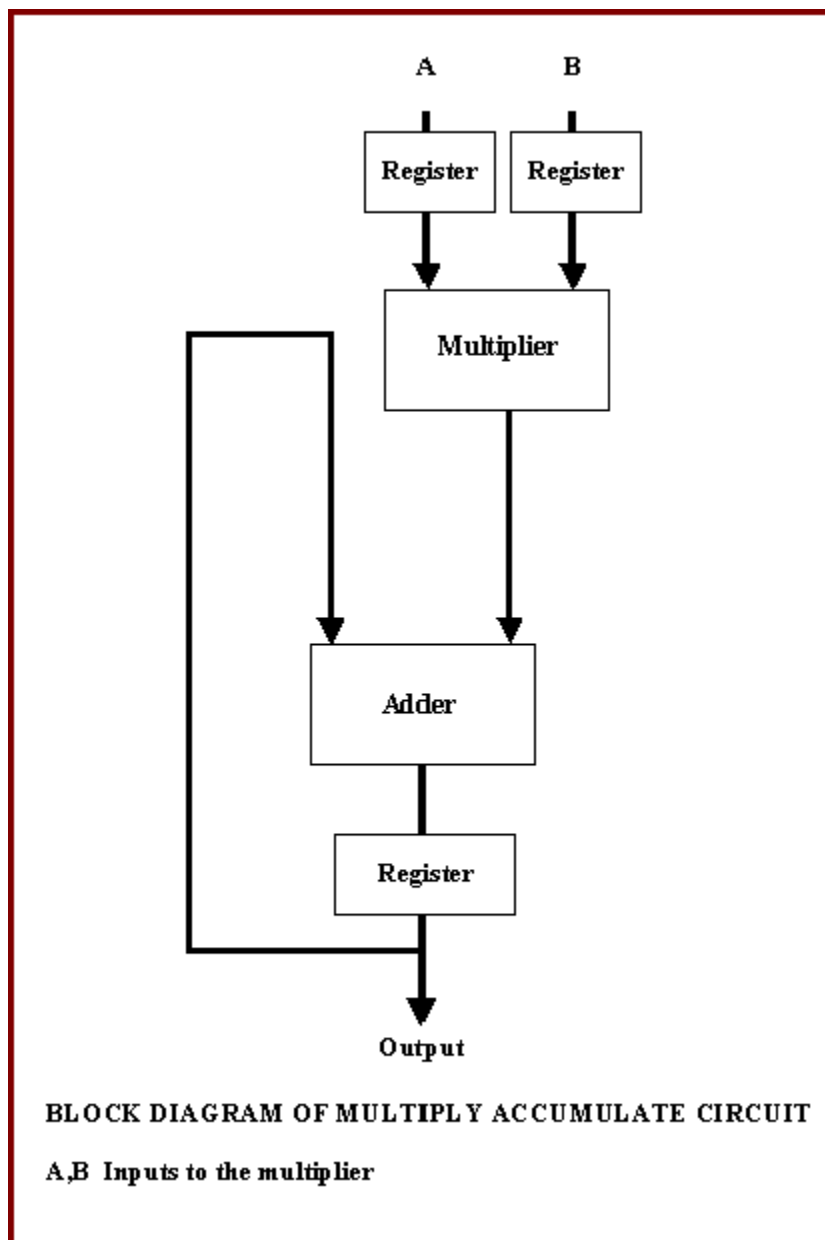

Figure 1.