

Figure 1: Basic multiplication hardware

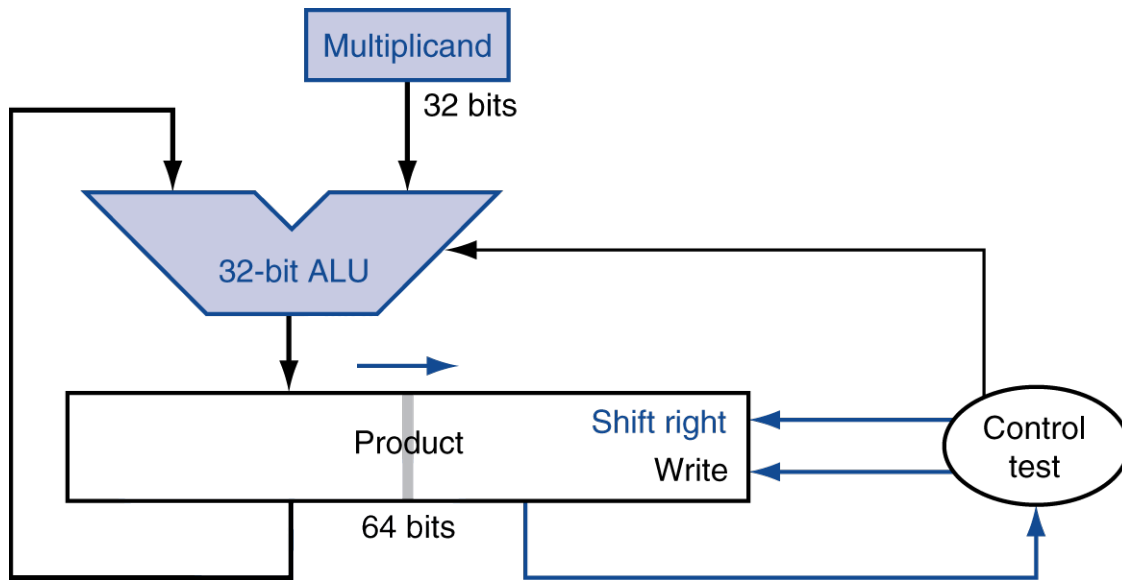


Figure 2: Optimized multiplication hardware

Show how the refined multiplier handles:

a. 4×3

b. 6×7

3. Explain how MIPS processors handle multiply operations.

4. Briefly describe division hardware and the MIPS divide instructions.

5. Describe the IEEE floating-point formats.

6. **Example:** Represent 0.75 in both single and double-precision floating-point format.

7. **Example:** What decimal value is represented by the single-precision float
11000000101000...00?

8. Describe floating-point addition.

9. Describe floating-point multiplication.

10. Describe the MIPS floating-point instructions.