Question:

What is the difference in the behavior of these two implementations of enq? Are they both correct?

// guarded enq
method Action enq (t x) if (!v);
    v <= True;
    d <= x;
endmethod

// conditional enq
method Action enq (t x);
    if (!v) begin
        v <= True;
        d <= x;
    end
endmethod

Guarded enq:
The guard is (!v).
- “enq” can be applied only if v is False.

Conditional enq:
The guard is always True;
- “enq” can be applied always
- However, if v is True, “enq” is applied but x would get lost.
  (BAD)