Project LAN1: Exponential Backoff

- Due March 25th.
- You implement the backoff() routine in file backoff.cpp.
  - the routine produces a random integer number that is multiple of the global constant SLOT_TIME, according to the Ethernet exponential backoff algorithm.
  - this requires that some persistent states be maintained; these states have been declared in the mac_interface_state structure.
  - One important MAC state is backoff_count, which determines the max_backoff_slots.

- you will use the utility::fwrand() routine to generate (floating-point) random numbers, using random_backoff_seed, part of mac_interface_state, as the seed.
- To compile, cwk5 lan1
- See nw33/assignments/lan1.txt for more details.
- All projects must be individual efforts.
int stack::backoff(byte portnum)
{
    // mac_interface is pointer to the interface_state values
    // associated with this interface, for example
    // mac_interface-> max_backoff_slots
    // (see typedef for mac_interface_state in wkb.h)
    mac_interface_state* mac_interface = mac_buffer[portnum];

    // student backoff code goes here

    // student code must calculate new backoff value in ticks
    // which is returned in place of the 0 below
    return 0;
}