



LABWORK 7

Suppose a number of users (a) have collided on a time slot. Each will wait a random number of time slots (b) and try again.

Write a MATLAB function **Backoff** that takes as input the number of users, the number of time slots and the number of experiments to find the success rate in the first slot by simulation.

Backoff

```
function r = backoff(a, b, n)
%Probability of sending a packet
%a: Number of users
%b: Number of time slots 0,1,2,...,b
%n: Number of experiments

s = 0;
for i = 1:n
    senders = 0;
    for user = 1:a
        r = floor ((b+1) * rand());
        if r == 0
            senders = senders + 1;
        end
    end
    if senders == 1
        s = s + 1;
    end
end
r = s / n;

end
```