A programming class is composed of 10 juniors, 30 seniors, and 10 graduate students. The final grades show that 5 of the juniors, 10 of the seniors, and 5 of the graduate students received an A for the course.

(a) If a student is chosen at random from this class and is found to have earned an A, what is the probability that he or she is a senior? $P(S|A) = 10/20 = 0.5$

(b) If a student is chosen at random from this class and is found to be Junior, what is the probability that he or she has got A? $P(A|J) = 5/10 = 0.5$