Section 3.2 : The Binomial Probability Distribution

binomial experiments:

①   have n identical trials

②   have only two possible outcomes

     Yes/No   up/down   Pass/Fail   On/Off

     - we call one outcome a success and the other a failure

③   the probability of success is equal to p and remains the same from trial to trial

$$P(success) = p$$
$$P(failure) = 1 - p = q$$

④   the trials are independent

⑤   we are interested in x, the number of successes observed during the n trials

$$x = 0, 1, 2, \ldots n$$

note: x is bounded with max and min values