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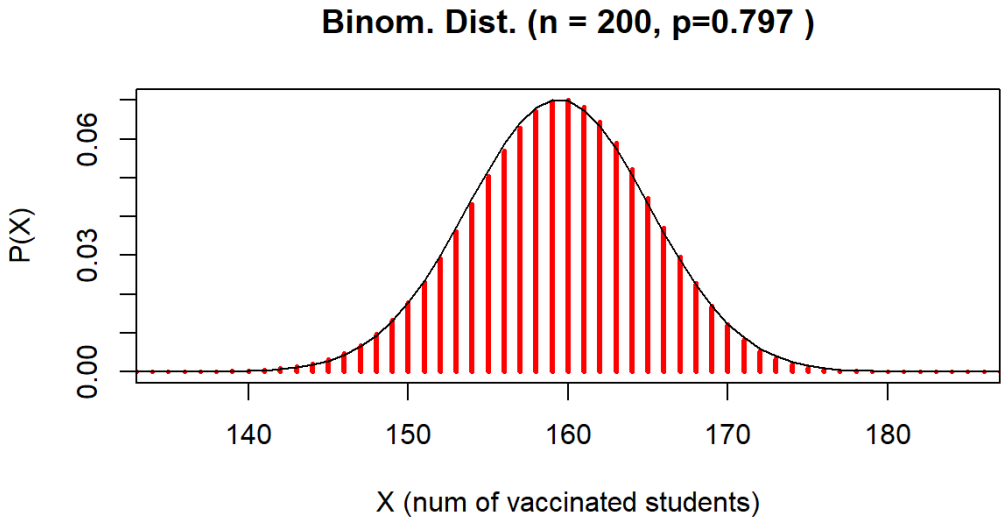
Lab Challenge 05

Part 1

a.



b.

$$p155 = pbinom(155, 200, 0.797)$$
$$p165 = pbinom(165, 200, 0.797)$$
$$p165 - p155 = \mathbf{0.6153544}$$

c.

$$prop.vals = X.vals/200$$
$$\frac{length(prop.vals[prop.vals <= 0.855 \,\&\, prop.vals >= 0.740])}{200} = \mathbf{0.12}$$

Part 2

a.

$$dpois(0, 1.56) = \mathbf{0.2101361}$$

b. Number of errors = 3

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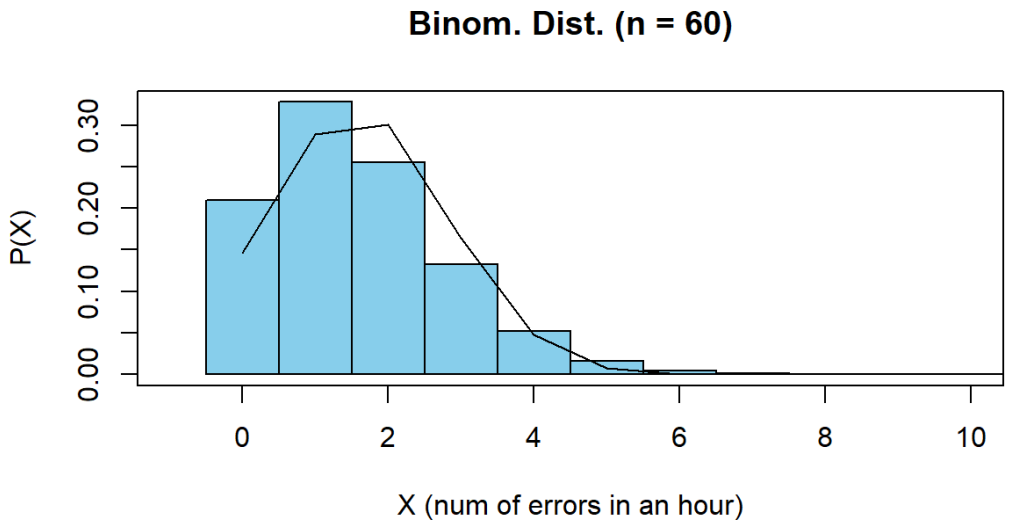
c.



Yes, the normal distribution provides a good approximation of the number of errors (X) in an hour.

Part 3

a.

$$\left(\frac{4}{52}\right) * \left(\frac{4}{52}\right) * \left(\frac{4}{52}\right) * \left(\frac{4}{52}\right) * \left(\frac{48}{52}\right) * 5 = \ 0.0001615974$$

b.

$$\left(\frac{4}{52}\right) * \left(\frac{3}{51}\right) * \left(\frac{2}{50}\right) * \left(\frac{1}{49}\right) * \left(\frac{48}{48}\right) * 5 = \ 0.00001846893$$