

Statistics Assignment - 7

① Out of all emails,

80% are spam.

$$10\% \text{ of } 80\% = 8\%$$

So, 8% of all emails are both spam and use phrase "free money"

Out of 20% non spam,

$$1\% \text{ of } 20\% = 0.2\%$$

So, 0.2% of all emails are both non-spam and use phrase "free money"

Thus, probability that the "free money" email is spam is

$$\left(\frac{8}{8 + 0.2} \right) = \frac{8}{8.2} = \underline{\underline{0.9756.}}$$