

Homework Chapter 6 (Statistics for

Management and Economics 10th edition By Keller) answers of some exercises

6.5-

$$S = \{1, 2, 3, 4, 5, 6\}$$

a- $P(\text{even number}) = P(2) + P(4) + P(6) = 1/6 + 1/6 + 1/6 = 0.5$

b- $P(\text{an number less or equal to 4}) = P(1) + P(2) + P(3) + P(4) = 0.67$

c- $P(\text{number greater than or equal to 5}) = P(5) + P(6) = 1/6 + 1/6 = 0.33$

6.7-

{Adams wins, Brown wins, Collins wins, Dalton wins}

A- The probability that Adams loses is $P(\text{Adams loses}) = 1 - P(\text{Adams wins}) = 0.58$

B- $P(\text{Either Brown or Dalton wins}) = 1 - P(\text{Adams wins}) + P(\text{Collins wins}) = 0.31$

C- $P(\text{Adams, Brown, or Collins wins}) = 1 - P(\text{Dalton wins}) = 0.78$

6.12-

A- $P(\text{customer does not use a credit card}) = 1 - P(\text{customer use credit card}) = 1 - 0.6 = 0.4$

B- $P(\text{customer pays in cash or with a credit card}) = P(\text{Customer pays with Credit card}) +$

$$P(\text{customer pays in cash}) = 0.6 + 0.3 = 0.9$$

6.25-

$$P(A_2) = 0.45, P(B_2) = 0.55, P(B_1) = 0.45, P(A_1) = 0.40, P(A_2) = 0.45, P(A_3) = 0.15$$

$$A- 0.25 / 0.55 = 0.45$$

$$B- 0.25 / 0.45 = 0.56$$

$$C- 0.20 / 0.45 = 0.44$$

6.26-

$$P(A_2) = 0.45, P(B_2) = 0.55, P(B_1) = 0.45, P(A_1) = 0.40, P(A_2) = 0.45, P(A_3) = 0.15$$

With the value of the table in 6.24 we can compute these probabilities:

$$A- 0.15 + 0.20 + 0.25 + 0.25 = 0.85$$

$$B- 0.20 + 0.25 + 0.25 + 0.05 = 0.75$$

$$C- 0.15 + 0.20 + 0.10 + 0.05 = 0.50$$

6.29-

$$A- P(\text{he or she did not finish high school}) = 0.057 + 0.104 = 0.161$$

$$B- P(\text{female college degree/unemployed}) = 0.095 / (0.095 + 0.136 + 0.132 + 0.057) = 0.223$$

$$C. P(\text{high school graduate / unemployed male}) = 0.224 / (0.104 + 0.224 + 0.150 + 0.103) = 0.386$$

6.32-

a- this a conditional probability

So the answer will be:

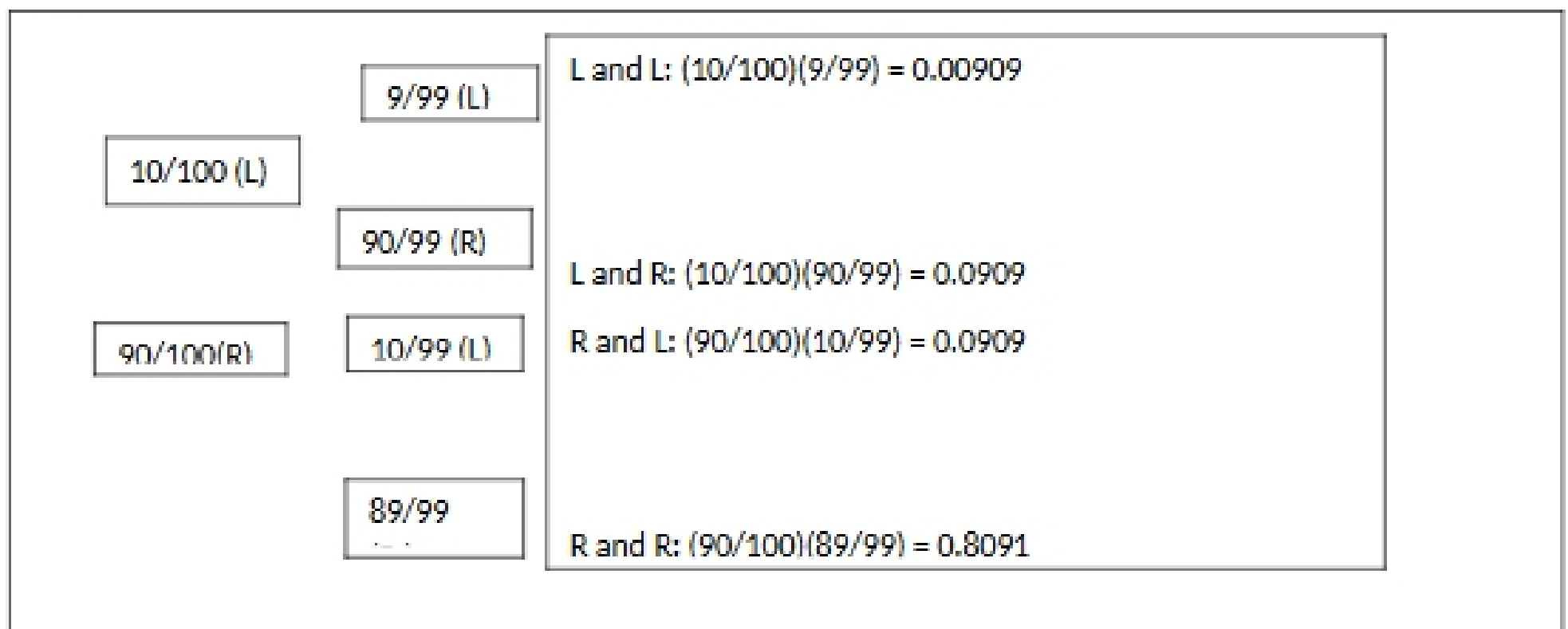
$$0.23 / 0.23 + 0.36 = 0.390$$

b- The proportion of applied statistics courses the employ a computer software is:

$$0.36 + 0.30 = 0.66$$

c- $0.23 / 0.59 = 0.390$ which is $\neq 0.34$ so No the educational background of the instructor and the way his or her course is taught are dependent.

6.54-



B- $P(\text{Both are right-handed}) = 0.8091$

$P(\text{Both are left-handed}) = 0.0091$

$P(\text{one is right-handed and the other is left handed}) = 0.0909 + 0.0909 = 0.1818$

$P(\text{at least one is right-handed}) = 0.0909 + 0.0909 + 0.809 = 0.9908$