

## Errata and updates for ASM Exam SRM Study Manual (Second Edition) sorted by date

- [11/13/2020] On page 301, in question 9, assume that the means of the 4 variables are 0.
- [11/6/2020] On page 270, in exercise 16.17, on the second line, change  $\lambda = 2$  to  $\lambda = 0.2$ .
- [11/4/2020] On page 11, on the last line of the solution to Example 2B, change " $\bar{y} - \hat{\beta}_0 \bar{x}$ " to " $\bar{y} - \hat{\beta}_1 \bar{x}$ ".
- [11/4/2020] On page 12, on the third line of Section 2.2, change "We than have" to "We then have".
- [9/9/2020] On page 222, in equation (14.15), add a pair of parentheses to the denominator so that it is  $1 - (\exp(l_0/n))^2$ .
- [9/9/2020] On page 224, in equation (14.15), add a pair of parentheses to the denominator so that it is  $1 - (\exp(l_0/n))^2$ .
- [9/7/2020] On page 195, in the box before exercise 12.32, on the displayed line, replace the left side with  $\ln \frac{\sum_{i \leq j} \hat{\pi}_i}{1 - \sum_{i \leq j} \hat{\pi}_i}$ .
- [9/2/2020] On page 12, on the sixth line of Section 2.2, in the column vector for  $\mathbf{y}$ , change  $y_k$  to  $y_n$ .
- [9/2/2020] On page 64, in exercise 4.25, on the first line, change "experience ( $x_2$ )" to "experience ( $x_1$ )". On the second line, change ( $x_3 = 1$ ) to ( $x_2 = 1$ ) and change ( $x_3 = 0$ ) to ( $x_2 = 0$ ).
- [8/30/2020] On page 153, two lines before Table 11.2, change  $b(\theta) = \theta$  to  $b'(\theta) = \theta$ .
- [8/13/2020] On page 142, in exercise 9.4(i), change  $\bar{x}_2$  to  $\bar{x}$ .
- [8/10/2020] On page 138, replace the solution to exercise 8.14 with:  
The RSS at the fitted values is 34, and the penalty function is  $(3^2 + 2^2)\lambda = 13\lambda$ . At the three lower values of RSS in the table, we have:

$(\beta_1, \beta_2)$	RSS	Penalty function
(4,2)	16	$(4^2 + 2^2)\lambda = 20\lambda$
(3,3)	31	$(3^2 + 3^2)\lambda = 18\lambda$
(4,3)	33	$(4^2 + 3^2)\lambda = 25\lambda$

$\lambda$  must be at least high enough so that the difference in penalty functions is greater than or equal to the difference in RSSs. In other words,  $\lambda \geq \text{Difference in RSS} / \text{Difference in penalty}$ . The quotients are 18/7, 3/5, and 1/8, with the biggest difference, **18/7**, occurring at (4,2).

- [8/10/2020] On page 334, in the solution to exercise 20.4, every  $t - 20$  should be  $t$ , and the final answer is 5. Replace the solution with

The mean of the series is 50 and the current value  $y_{20} = 60$ , which is 10 higher than the mean. In the forecast of an AR(1) series, each excess of a term over the mean is  $\beta_1$  times the excess of the previous term over the mean. Here,  $\beta_1 = 0.75$ . We want the  $t$  such that  $y_t = 53$ , an excess of 3 over the mean, so we want  $10(0.75^t) < 3$ . Solving for  $t$ ,

$$\begin{aligned}
 10(0.75^t) &< 3 \\
 0.75^t &< 0.3 \\
 t \ln 0.75 &< \ln 0.3 \\
 t &> \frac{\ln 0.3}{\ln 0.75} = 4.185
 \end{aligned}$$

The smallest  $t$  with  $\hat{y}_{20+t} < 53$  is **5**.

[6/16/2020] On page 208, in exercise 13.1, the last four lines of the table should be:

Family size	2	
1 or 2	0	0.000
3 or 4	1	0.137
5 or more	1	0.355

[11/21/2019] On page 91, replace the last three lines of the solution to Quiz 5-3 with

$$R_{(3)}^2 = \frac{0.72}{1.72}$$

The VIF is

$$\text{VIF}_3 = \frac{1}{1 - 0.72/1.72} = \mathbf{1.72}$$

[11/18/2019] On pages 318–319 in each of the five formulas in Section 19.6, change the lower limit of the summation from  $t = T_1$  to  $t = T_1 + 1$ .

[8/30/2019] On page 181, on the third line after “Cumulative logit and proportional odds models” ,, change  $\Pr(Y \leq j)$  to  $\Pr(Y \leq m)$ .

[8/2/2019] On page 100, in the solution to exercise 6.6 statement II, on the first line, change “the higher the variance” to “the lower the variance”.

[8/2/2019] On page 101, in the second bullet, on the second to third lines, change “cannot decrease the RSS and will almost surely increase it” to “cannot increase the RSS and will almost surely decrease it”.