FMLPDA Solutions Issues

Chapter 8:

Question Q2 (a): The book's exercise solutions use (M(di) - t.mean), but the book formula correctly uses (ti - t.mean) for total sum of squares to calculate R^2. Below are the results according to our calculations based on the dataset on page 457.

A	B	C	D	E	F	G	H	I	J	K	L
ID	Target	Ti - Target_mean	(Ti - Target_mean)^2		Model 1	Error	Squared Error		Model 2	Error	Squared Error
1	2623	129.2	16692.64		2664	-41	1681		2691	-68	4624
2	2423	-70.8	5012.64		2436	-13	169		2367	56	3136
3	2423	-70.8	5012.64		2399	24	576		2412	11	121
4	2448	-45.8	2097.64		2447	1	1		2440	8	64
5	2762	268.2	71931.24		2847	-85	7225		2693	69	4761
6	2435	-58.8	3457.44		2411	24	576		2493	-58	3364
7	2519	25.2	635.04		2516	3	9		2598	-79	6241
8	2772	278.2	77395.24		2870	-98	9604		2814	-42	1764
9	2601	107.2	11491.84		2586	15	225		2583	18	324
10	2422	-71.8	5155.24		2414	8	64		2485	-63	3969
11	2439	-54.8	3003.04		2407	32	1024		2472	-33	1089
12	2515	21.2	449.44		2505	10	100		2584	-69	4761
13	2548	54.2	2937.64		2581	-33	1089		2604	-56	3136
14	2281	-212.8	45283.84		2277	4	16		2309	-28	784
15	2295	-198.8	39521.44		2280	15	225		2296	-1	1
16	2570	76.2	5806.44		2577	-7	49		2612	-42	1764
17	2528	34.2	1169.64		2510	18	324		2557	-29	841
18	2342	-151.8	23043.24		2381	-39	1521		2421	-79	6241
19	2456	-37.8	1428.84		2452	4	16		2393	63	3969
20	2451	-42.8	1831.84		2437	14	196		2479	-28	784
21	2296	-197.8	39124.84		2307	-11	121		2290	6	36
22	2405	-88.8	7885.44		2355	50	2500		2490	-85	7225
23	2389	-104.8	10983.04		2418	-29	841		2346	43	1849
24	2629	135.2	18279.04		2582	47	2209		2647	-18	324
25	2584	90.2	8136.04		2564	20	400		2546	38	1444
26	2658	164.2	26961.64		2662	-4	16		2759	-101	10201
27	2482	-11.8	139.24		2492	-10	100		2463	19	361
28	2471	-22.8	519.84		2478	-7	49		2403	68	4624
29	2605	111.2	12365.44		2620	-15	225		2645	-40	1600
30	2442	-51.8	2683.24		2445	-3	9		2478	-36	1296
	Target_mean		SST = SUM((Ti - Target_mean)^2)/2				SSE Model 1 = SUM(Squared Error)/2				SSE Model 2 = SUM(Squared Error)/2
	2493.8		225217.4				15580				40349
							R^2 Model 1 = 1 - (SSE Model 1 / SST)				R^2 Model 2 = 1 - (SSE Model 2 / SST)
							0.930822396				0.820844215

Question 3 (a): for Model 1, threshold of 51, we obtain values different from book solution:

TP = 17

FN= 1

FP = 1

TN = 11

TPR, FPR = (0.944, 0.0833)

Thus, the book's solutions have one incorrect entry - one of the FP's should be TN.