Errata of the book
"Peter Marwedel: Embedded System Design", 3rd edition
April 25, 2018

Page	Change
44	Reference [157] contained an error and is no longer available: The equations for the bouncing ball correspond to the case where the ball travels distance h_0 twice, e.g. by starting from the ground. This should be changed to reflect the case where the ball is initially dropped. Hence, a new term "$-\frac{v_0}{g}$" has to be added to equations (2.1) and (2.2.). For existing hard copies, it should be sufficient to add this term to these equations as shown below.

Future versions of the book will contain an explicit derivation:

"After being released, the ball travels a distance $x = \frac{g}{2}t^2$ until the initial bounce (bounce 0) happens, which is when $x = h_0$ at a time called t_0 and with a velocity called v_0. t_0 can be computed from $h_0 = \frac{g}{2}t_0^2$ and v_0 from $v_0 = gt_0$. Hence, $v_0 = \sqrt{2gh_0}$ and $t_0 = \frac{v_0}{g}$.
After bouncing, the ball travels at speed $v = -sv_0 + gt$ until $v = 0$. Hence, the time t_1' for reaching the maximum can be computed from $0 = -sv_0 + gt_1'$, or $t_1' = s\frac{v_0}{g}$. For its way down, the ball needs as much time as for its way up. Hence the next bounce (bounce 1) occurs $t_1 = 2t_1' = 2s\frac{v_0}{g}$ time units after bounce 0. Each of the following ways up or down will also be a factor of s shorter than the previous one. Hence, bounces 1 to n happen at times

$$t_n = \frac{v_0}{g} + \frac{2v_0}{g}\sum_{k=1}^{n} s^k = \frac{2v_0}{g}\sum_{k=0}^{n} s^k - \frac{v_0}{g} \qquad (2.1)$$

As long as $s < 1$, this series converges to

$$t_{final} = \lim_{n\to\infty} \frac{2v_0}{g}\sum_{k=0}^{n} s^k - \frac{v_0}{g} = \frac{2v_0}{g(1-s)} - \frac{v_0}{g} \qquad (2.2)$$"

Due to the non-availability of reference [157], delete the sentence "s is the square root of the so-called rebound coefficient r [157]." on the same page.

Page	Change
210	The second paragraph below Fig. 4.11 should read as follows: "At time t_5, J_1 tries to lock `a`. `a` is not yet locked, but J_3 has locked `b` and the current priority of J_1does not exceed the ceiling for `b`. So, J_1 gets blocked."
246	Lines 4 to 6 should read as follows: "The signal-to-noise-ration was already defined on p. 138. Next, we define the Peak-Signal-to-Noise-Ratio, which is similar to the SNR. Let x be a signal, y its noisy approximation and x_{max} its maximum. Definition 5.14 ...."
247	Replace x_i by y_i in equation (5.24).
259	Definition 5.23: Change "area A" into "unit area" and change "thickness L" into "unit thickness".
286	Third line from the bottom: In "'s_i" and "π_i" change "i" into "k".
296	In Fig. 6.8: in the last column, replace "T_3" by "J_3" (twice).
308	In Definition 6.15, first line: change "at" to "a" in "be at set of items".
309	Line 5 of the gray box: delete ";" before "/*sufficient capacity*/"
317	In Fig. 6.24: change "T_1" to "T_3" into "τ_1" to "τ_3".
321	Move the red line down to time 21.
322	In line 5 of the gray box: replace "i" in "$\tau_{i,j}$ * *" by "t".
356	Delete reference [157].