Errata for
Linear and Nonlinear Programming
by Stephen G. Nash and Ariela Sofer

Items are sorted by order of occurrence within the book. Negative line numbers are counted from the bottom of the page. Within displayed equations, matrices and vectors are counted as a single line. This file was last modifed on January 20, 1998.

Page xvii, line 6
change: http://bass.gmu.edu/site/ORE/Nash-Sofer.html
to: http://www.gmu.edu/departments/ore/books/Nash-Sofer.html

Page 7, line 4
change: $2x_2$
to: $2x_1$

Page 20, line 17
change: $g_i(\hat{x}) > 0$ if and only if
to: if $g_i(\hat{x}) > 0$ then

Page 20, line 19
change: defined by an equivalent set of equality and inequality constraints $\hat{S}$ in such a way that the interior of $\hat{S}$ is empty.
to: represented by equality and inequality constraints in such a way that it has no interior points.

Page 35, line –10
change: $(-2, 3)$
to: $(-2, 3)^T$

Page 37, line –4
change: be possible
to: possible

Page 43, line –8
change: $\nabla f(x_k)p$
to: $\nabla f(x_k)^T p$

Page 105, line –6
change: $x_1, x_2 \geq 0$
to: $x_1, x_2, x_3 \geq 0$

Page 133, line –7
change: surplus
to: excess

Page 134, line 2,3
change: z_*
to: z'_*

Page 165, line 14
change: more
to: general

Page 171, line –16
change: minimize
to: maximize

Page 189, line 11
change: $-2x_1 - x_2$
to: $-x_1 - 2x_2$

Page 207, line 7
change: $(\ 3 \quad -5 \quad -7 \quad 2 \quad 0 \quad 0 \quad 0 \quad 0 \ )$
to: $(\ 3 \quad -5 \quad -7 \quad 2 \quad 0 \quad 0 \quad 0 \quad 0 \ )^T$

Page 233, line 1
change: $(1/\hat{a}_{s,t})$
to: $(1/\hat{a}^2_{s,t})$

Page 244, line –15
change: to the dual of
to: to

Page 259, line –1 (right-hand figure)
change: $x_{1,5} = 0$
to: $x_{5,1} = 0$
Also, reverse direction of arrow accordingly.

Page 259, line –1 (right-hand figure)
change: $x_{4,7} = 0$
to: $x_{7,4} = 0$
Also, reverse direction of arrow accordingly.

Page 270, line –9
change: 100^{i-j}
to: 100^{i-1}

Page 296, line –4
change: x and x_*
to: x_* and $x_* + p$

Page 327, line 13
change: 10^{-2}
to: 10^{-7}

Page 341, line 10
change: Problem 1
to: Problem 3

Page 347, line –12
change: maximization
to: minimization

Page 357, line 10
change: $s_1, \ldots, s_n$
to: $s_0, \ldots, s_{n-1}$

Page 357, line 11
change: $0, 2,$
to: $0, 1,$

Page 357, line 17
change: v is some nonzero vector.
to: v is a vector such that $v^T s_k \neq 0$.

Page 361, line –8
change: $+\frac{1}{12}$
to: $-\frac{1}{12}$

Page 361, line –3
change: $+\frac{1}{24}$
to: $-\frac{1}{24}$

Page 395, line –5
change: methods
to: method

Page 401, line 4
change: entire line
to:

$$\begin{aligned} H_k &= H_{k-1} - \frac{s_{k-1}(H_{k-1}y_{k-1})^T(H_{k-1}y_{k-1})s_{k-1}^T}{y_{k-1}^T s_{k-1}} + \frac{y_{k-1}^T s_{k-1} + y_{k-1}^T H_{k-1} y_{k-1}}{(y_{k-1}^T s_{k-1})^2}(s_{k-1}^T s_{k-1}) \\ &= \left[I - \frac{s_{k-1}y_{k-1}^T}{y_{k-1}^T s_{k-1}}\right] H_{k-1} \left[I - \frac{y_{k-1}s_{k-1}^T}{y_{k-1}^T s_{k-1}}\right] + \frac{s_{k-1}s_{k-1}^T}{y_{k-1}^T s_{k-1}} \end{aligned}$$

Page 401, line 10–13
change: entire displayed formula
to:

$$p_k = -H_k \nabla f(x_k) \quad = \quad -\left[I - \frac{s_{k-1}y_{k-1}^T}{y_{k-1}^T s_{k-1}}\right]\left[I - \frac{y_{k-1}s_{k-1}^T}{y_{k-1}^T s_{k-1}}\right]\nabla f(x_k) - \frac{s_{k-1}s_{k-1}^T}{y_{k-1}^T s_{k-1}}\nabla f(x_k)$$

Page 407, line 6
change: $r_i^T M r_j = 0, \quad r_i^T M p_j = 0, \quad$ and $\quad p_i^T A r_j = 0$
to: $r_i^T M^{-1} r_j = 0, \quad r_i^T p_j = 0, \quad$ and $\quad p_i^T M^{1/2} A M^{1/2} r_j = 0$

Page 438, line –3
change: increase
to: decrease

Page 442, line –14
change: λ
to: $\hat{\lambda}_*$

Page 450, line 3
change: $(2x_1, 4x_2)^T = (2, 0)^T$
to: $(2x_1, 4x_2)^T = (4, 0)^T$

Page 468, line 17
change: Lemma 14.5
to: Lemma 14.7

Page 470, line –12
change: $\min_x x^2 - \lambda(x-1)$
to: $\min_x \{x^2 - \lambda(x-1)\}$

Page 479, line –3
change: $AQ^{-1}Ac$
to: $AQ^{-1}c$

Page 480, line 5
change: $\log(x)$
to: e^x

Page 510, line –15
change: project
to: projection

Page 553, line –7
change: is minimizes
to: minimizes

Page 561, line –6
change: $f(x) + \lambda^T g(x)$
to: $f(x) - \lambda^T g(x)$

Page 574, line –9
change: A_y^T
to: $A^T y$

Page 589, line 10
change: $(\bar{P})$
to: (PK)

Page 589, line 11
change: $\bar{P}$
to: (PK)

Page 591, line 4
change: $\bar{P}$
to: (PK)

Page 591, line 5
change: $\bar{P}$
to: (PK)

Page 608, line –13
change: function of t
to: function of ρ

Page 613, line 1
change: call
to: called