Handouts for Floating-Point Lectures - 1990 Cumulative

David Hough

Cumulative late handouts for the 1988 Sun Microsystems Floating-Point Indoctrination lectures, distributed in 1990; except as noted, by W. Kahan, 1988.

1. Set 14

1.1. ADMINISTRATION

1.1.1. Handouts for Floating-Point Lectures - 1988 Cumulative. 27 Nov 90, Hough, 10 pp.

1.2. FORMAL LECTURE NOTES

1.2.1. Lecture 8 of 26 May - 13 June 90, Ma, 19 pp.

1.2.2. Lecture 17 of 28 June - 14 June 90, Goldberg, 6 pp.

1.2.3. Lecture 19 of 5 July - 14 June 90, Goldberg, 7 pp.

1.2.4. Lecture 20 of 7 July - 14 June 90, Goldberg, 6 pp.

1.2.5. Lecture 21 of 12 July - 14 June 90, Goldberg, 5 pp.

1.2.6. Lecture 22 of 14 July - 14 June 90, Goldberg, 3 pp.

1.2.7. Lecture 23 of 19 July - 14 June 90, Goldberg, 3 pp.

1.2.8. Lecture 24 of 21 July - 14 June 90, Goldberg, 5 pp.

1.2.9. Lecture 25 of 26 July - 14 June 90, Goldberg, 3 pp.

1.2.10. Lecture 26 of 28 July - 14 June 90, Goldberg, 6 pp.

1.2.11. Lecture 27 of 28 July (evening) - 14 June 90, Ma, 11 pp.

1.3. UNPUBLISHED RESEARCH AND CLASS NOTES

1.3.1. Elementary Inequalities among Elementary Functions - 19 Aug 85, 3 pp.

1.3.2. Rational Arithmetic in Floating Point - 20 Sep 86, 9 pp.

1.3.3. Doubled-Precision IEEE Standard 754 Floating-Point Arithmetic - 26 Feb 87, 15 pp.

1.3.4. Presubstitution, and Continued Fractions, 24 Apr 87 - 7 pp.

1.3.5. Handling Arithmetic Exceptions, 14 May 87 - 16 pp.

1.3.6. Branch Cuts for Complex Elementary Functions - 17 May 87, 35 pp.

1.3.7. An Exercise in Technical Support for Scientific Computation - 3 May, 2 pp.

1.3.8. Five Frightening Facts about Floating-Point Arithmetic - 3 May, 3 pp.

1.3.9. ProdQuot - computing x*y*z and x*y/z - 18 May, 2 pp.

1.3.10. Why must 00 = 1 - 27 July, 15 pp.**

1.3.11. Bumps on the path to Floating-Point Progress - 26 June 89, 14 pp.

1.3.12. Twenty Challenges for Computerized Symbolic Algebra Systems - 13 July 90, 3 pp.

1.3.13. Periodic Integrals vs. Prohibition of tan(pi/2) = infinity - 13 July 90, 4 pp.

1.3.14. The Persistence of Irrationals in Some Integrals - 13 July 90, 4 pp.

2. Set 15

2.1. MISCELLANY

2.1.1. Underflow can Hurt - Grosse and Moler, 1 p.

2.1.2. Products incorporating ACRITH - Kulisch, 31 October 1988, 2 pp.

2.1.3. Elementary Functions based upon IEEE Arithmetic - Hough, November 1983, 4pp.

2.1.4. Proposed Floating Point Environmental Inquiries in Fortran - Kahan, Demmel, Coonen, 7 pp.

2.1.5. Compatible Hardware for Division and Square Root - Taylor, May 81, 8 pp.

2.1.6. A Portable Floating-Point Environment - Barnett, 18 Dec 87, 20 pp.

2.1.7. Precision Improvement of Software Algorithms - Lieutier, Alemi, 1988, 21 pp.

2.1.8. What Every Computer Scientist Should Know About Floating-Point Arithmetic - Goldberg, 13 Jun 90, 53 pp.

3. Set 16

3.1. MISCELLANY

3.1.1. Mailing address verification letter sent to all non-Sun attendees - 3 December 1990, Hough, 1 p.

3.1.2. Handouts for Floating-Point Lectures - 1990 Cumulative. 10 December 1990, Hough, 3 pp.

3.1.3. SPARC V8 Appendix N: SPARC IEEE 754 Implementation Recommendations - July 1990, Hough, 5 pp.

3.1.4. Floating-Point Computation - 1974, Sterbenz, reprinted by permission of Prentice Hall, 165 pp.

4. Manufacturer's Information

4.1. SN74ACT8800 Family Data Manual [including 8847] - June 1988 - Texas Instruments.

4.2. MC68881/MC68882 User's Manual - 1987 - Prentice Hall.

4.3. FasMath 83D87 Processor data sheet - 1990 - Cyrix.

4.4. FasMath 83S87 Processor data sheet - 1990 - Cyrix.

4.5. FasMath EMC87 Processor data sheet - 1990 - Cyrix.

4.6. FasMath Accuracy Report - August 1989 - Cyrix.

4.7. FasMath 83D87 Compatibility Report - June 1990 - Cyrix.

4.8. FasMath 83D87 Benchmark Report - January 1990 - Cyrix.

4.9. Numerical Computation Guide for Sun Fortran 1.4 beta and Sun C 1.1 beta - October 1990, Mueller and Nipper, xx pp.