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1      * USR demo samples
2      * Two args functions samples for Peersoftv1.5.5
3      * 0) Greatest common divisor of two integer values
4      * If either A or B is zero, then return zero
5      * 10 IF A<B THEN SWAP A,B
6      * 20 C= A MOD B:A=B:B=C:ON B>0 GOTO 20
7      * 30 RESULT IN A variable
8      * 1) Least common multiplicator of two integer values
9      * = A*B / GCD(A,B) (see above formula)
10     * 2) Factorial (one argument)
11     * 3) Arithmetic 16bits OR operation (on two args)
12     * 4) Arithmetic 16bits EOR operation (on two args)
13     * 5) Arithmetic 16bits AND operation (on two args)
14     * 6) 16bits wide memory peek
15     * 7) Max between two FP
16     * 8) Min between two FP
17
18             USE      FPMACROS
>1     *-----
>2     *      FP macros and equates
>3     *-----
>4
>5     FAC      =      $9D
>6     FSUB     =      $E7A7
>7     FADD     =      $E7BE
>8     OVERFLOW =      $E8D5
>9     ONE      =      $E913
>10    FLOG     =      $E941
>11    FMULT    =      $E97F
>12    CONUPK   =      $E9E3
>13    MUL10    =      $EA39
>14    FDIV     =      $EA66
>15    DIVERR   =      $EAE1
>16    MOVFM    =      $EAF9
>17    MOVMF    =      $EB2B
>18    FLOAT    =      $EB93
>19    FCOMP    =      $EBB2
>20    QINT     =      $EBF2
>21    FINT     =      $EC23
>22    FIN      =      $EC4A
>23    LINPRT   =      $ED24
>24    PRNTFAC  =      $ED2E
>25    FOUT     =      $ED34
>26    SQR      =      $EE8D
>27    FPWRT    =      $EE97
>28    NEGOP    =      $EED0
>29    FEXP     =      $EF09
>30    RND      =      $EFAE
>31    FCOS     =      $EFEA
>32    FSIN     =      $EFF1
>33    FTAN     =      $F03A
>34    PIHALF   =      $F066
>35    FATN     =      $F09E
>36
>37    HALF     MAC      ;FAC/2 -> FAC
>38             LDA     FAC
>39             BEQ     NC
>40             DEC     FAC
>41    NC

```

```

>42          <<<
>43
>44 POINT    MAC
>45          LDA    #]1
>46          LDY    #>]1
>47          <<<
>48
>49 STFAC    MAC                      ;FAC -> ?
>50          LDX    #]1
>51          LDY    #>]1
>52          JSR    MOVMF
>53          <<<
>54
>55 GETNUM    MAC                      ;? -> FAC
>56          POINT ]1
>57          JSR    MOVFM
>58          <<<
>59
>60 FMOV      MAC
>61          GETNUM ]1
>62          STFAC ]2
>63          <<<
>64
>65 ADDTO     MAC                      ;FAC + ? -> FAC
>66          POINT ]1
>67          JSR    FADD
>68          <<<
>69
>70 SUBFROM   MAC                      ;? - FAC -> FAC
>71          POINT ]1
>72          JSR    FSUB
>73          <<<
>74
>75 DIVINTO   MAC                      ;?/FAC -> FAC
>76          POINT ]1
>77          JSR    FDIV
>78          <<<
>79
>80 MULBY     MAC                      ;?*FAC -> FAC
>81          POINT ]1
>82          JSR    FMULT
>83          <<<
>84
>85 CMPRF     MAC                      ;FAC <=> ? (?)
>86          POINT ]1
>87          JSR    FCOMP
>88          <<<
19
20 K6502     =      0
21 K65C02    =      1
22
23 KOPT      EQU    K65C02
24          DO      KOPT-K6502
25          XC
26          FIN
27
28 STID      MAC

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```

29          LDA    #j1
30          STA    j2
31          LDA    #>j1
32          STA    j2+1
33          <<<
34
35      GOTO      MAC
36          DO      KOPT-K6502
37          BRA     j1
38          ELSE
39          JMP     j1
40          FIN
41          <<<
42
43      MPLX      MAC
44          DO      KOPT-K6502
45          PLX
46          ELSE
47          PLA
48          TAX
49          FIN
50          <<<
51
52      PHM      EQU    $7F10      Peersoft HIMEM once MAXFILES 1
53
54      K1       EQU    $E913      FP constant "1"
55
56      PCL      EQU    $3A
57      A1L      EQU    $3C
58      A2L      EQU    $3E
59      A4L      EQU    $42
60      MOVE     EQU    $FE2C
61      XSAV     EQU    $B4
62      INSDS2   EQU    $F88C
63      PCADJ    EQU    $F953
64      LENGTH   EQU    $2F
65      VECTUSR  EQU    $0A
66
67          DO      KOPT-K65C02
68      MINSDS2  EQU    INSDS2
69          FIN
70
71      ARG      EQU    $A5
72      BISVTYPE EQU    $BE
73
74      FLGFN    EQU    $9CC0
75      WRKFA    EQU    $9CBE
76      WRKFB    EQU    $9CC3
77      WRKFC    EQU    $9CC8
78      WMODE    EQU    $9CE7
79
80      LINNUM    EQU    $50
81      CHKNUM    EQU    $DD6A
82      CHKVAL    EQU    $DD6D
83      MKINT     EQU    $E108
84      ILQERR    EQU    $E199
85

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	86	GIVAYF	EQU	\$E2F2	
	87	GETADR	EQU	\$E752	
	88	MOVFA	EQU	\$EB53	ARG into FAC
	89	SIGN	EQU	\$EB82	
	90				
	91	FRETOP	EQU	\$6F	
	92	HIMEM	EQU	\$73	
	93				
	94		ORG	\$4000	
	95				
4000:	A9 10	96	SUITE	LDA	#PHM
4002:	38	97		SEC	
4003:	E5 73	98		SBC	HIMEM
4005:	8D 3E 40	99		STA	:0+1
4008:	A9 7F	100		LDA	#>PHM
400A:	E5 74	101		SBC	HIMEM+1
400C:	8D 46 40	102		STA	:1+1
		103			
400F:	A9 D6	104		LDA	#AROMBA
4011:	A0 40	105		LDY	#>AROMBA
4013:	85 3A	106	]LOOP	STA	PCL
4015:	C9 98	107		CMP	#FCODE-FNDVAR2+AROMBA
4017:	98	108		TYA	
4018:	E9 42	109		SBC	#>FCODE-FNDVAR2+AROMBA
401A:	B0 32	110		BCS	:4
401C:	84 3B	111		STY	PCL+1
401E:	20 A0 40	112		JSR	MINSDDS2
4021:	A4 2F	113		LDY	LENGTH
4023:	C0 02	114		CPY	#2
4025:	D0 22	115		BNE	:3
4027:	B1 3A	116		LDA	(PCL),Y
4029:	AA	117		TAX	
402A:	88	118		DEY	
402B:	B1 3A	119		LDA	(PCL),Y
402D:	A8	120		TAY	
402E:	C9 10	121		CMP	#MFIN
4030:	8A	122		TXA	
4031:	E9 7F	123		SBC	#>MFIN
4033:	B0 14	124		BCS	:3
4035:	C0 49	125		CPY	#FNDVAR2
4037:	8A	126		TXA	
4038:	E9 7D	127		SBC	#>FNDVAR2
403A:	90 0D	128		BCC	:3
403C:	98	129		TYA	
403D:	E9 00	130	:0	SBC	#0
403F:	A0 01	131		LDY	#1
4041:	91 3A	132		STA	(PCL),Y
4043:	C8	133		INY	
4044:	8A	134		TXA	
4045:	E9 00	135	:1	SBC	#0
4047:	91 3A	136		STA	(PCL),Y
4049:	20 53 F9	137	:3	JSR	PCADJ
		138		GOTO	]LOOP
		138		DO	KOPT-K6502
404C:	80 C5	138		BRA	]LOOP
		138		ELSE	
		138		JMP	]1

Only relocates 3 bytes instr.

Only addresses within range

Must be < FIN to be relocated

and >= FNDVAR2...

;Recolates address

Low byte

Adjust PCL to length byte

			138		FIN	
			138		<<<	
			139			
404E:	AD	3A	41	140	: 4	LDA OFST+1+AROMBA-FNDVAR2
4051:	38			141		SEC
4052:	ED	3E	40	142		SBC : 0+1
4055:	8D	3A	41	143		STA OFST+1+AROMBA-FNDVAR2
4058:	AD	3C	41	144		LDA OFST+3+AROMBA-FNDVAR2
405B:	ED	46	40	145		SBC : 1+1
405E:	8D	3C	41	146		STA OFST+3+AROMBA-FNDVAR2
4061:	A9	49		147		LDA #FNDVAR2
4063:	A2	7D		148		LDX #>FNDVAR2
4065:	38			149		SEC
4066:	ED	3E	40	150		SBC : 0+1
4069:	85	42		151		STA A4L
406B:	8A			152		TXA
406C:	ED	46	40	153		SBC : 1+1
406F:	85	43		154		STA A4L+1
				155		
				156		STID AROMBA;A1L
4071:	A9	D6		156		LDA #AROMBA
4073:	85	3C		156		STA A1L
4075:	A9	40		156		LDA #>AROMBA
4077:	85	3D		156		STA A1L+1
				156		<<<
				157		
				158		STID MFIN-1+AROMBA-FNDVAR2;A2L
4079:	A9	9C		158		LDA #MFIN-1+AROMBA-FNDVAR2
407B:	85	3E		158		STA A2L
407D:	A9	42		158		LDA #>MFIN-1+AROMBA-FNDVAR2
407F:	85	3F		158		STA A2L+1
				158		<<<
4081:	A0	00		159		LDY #0
4083:	20	2C	FE	160		JSR MOVE
4086:	A5	73		161		LDA HIMEM
4088:	38			162		SEC
4089:	E9	C7		163		SBC #MFIN-FNDVAR2
408B:	85	73		164		STA HIMEM
408D:	85	6F		165		STA FRETOP
408F:	85	0B		166		STA VECTUSR+1
4091:	A5	74		167		LDA HIMEM+1
4093:	E9	01		168		SBC #>MFIN-FNDVAR2
4095:	85	74		169		STA HIMEM+1
4097:	85	70		170		STA FRETOP+1
4099:	85	0C		171		STA VECTUSR+2
409B:	A9	4C		172		LDA #\$4C
409D:	85	0A		173		STA VECTUSR
409F:	60			174		RTS
				175		
				176		DO KOPT-K6502
40A0:	B2	3A		177	MINSDS2	LDA (PCL)
40A2:	A2	0F		178		LDX #LN-MC-1
40A4:	DD	B6	40	179	]LOOP	CMP MC,X
40A7:	F0	07		180		BEQ : 0
40A9:	CA			181		DEX
40AA:	10	F8		182		BPL]LOOP
40AC:	E8			183		INX ;X set to zero

40AD:	4C	8C	F8	184		JMP	INSDS2	
40B0:	BD	C6	40	185	:0	LDA	LN,X	
40B3:	85	2F		186		STA	LENGTH	
40B5:	60			187		RTS		
				188				
40B6:	DA	FA	04	189	MC	HEX	DAFA041A3A	PHX/PLX/TSB d/INC/DEC
40B9:	1A	3A						
40BB:	7C	80	7A	190		HEX	7C807A5A	JMP (abs,X)/BRA d/PLY/PHY
40BE:	5A							
40BF:	64	9E		191		HEX	649E	STZ d/STZ a,X
40C1:	0C	9C		192		HEX	0C9C	TSB a/STZ a
40C3:	1C	14		193		HEX	1C14	TRB a/TRB d
40C5:	B2			194		HEX	B2	LDA (d)
				195				
40C6:	00	00	01	196	LN	HEX	0000010000	PHX/PLX/TSB d/INC/DEC
40C9:	00	00						
40CB:	02	01	00	197		HEX	02010000	JMP (a, X)/BRA d/PLY/PHY
40CE:	00							
40CF:	01	02		198		HEX	0102	STZ d/STZ a,X
40D1:	02	02		199		HEX	0202	TSB a/STZ a
40D3:	02	01		200		HEX	0201	TRB a/TRB d
40D5:	01			201		HEX	01	LDA (d)
				202		FIN		
				203				
				204	AROMBA	ORG	\$7D49	
				205	FNDVAR2			
7D49:	4C	F7	7D	206		JMP	GCD	
7D4C:	4C	DB	7D	207		JMP	LCM	
7D4F:	4C	5F	7E	208		JMP	FACT	
7D52:	4C	C1	7D	209		JMP	BINORA	
7D55:	4C	CE	7D	210		JMP	BINEOR	
7D58:	4C	B4	7D	211		JMP	BINAND	
7D5B:	4C	8F	7D	212		JMP	WPEEK	
7D5E:	4C	64	7D	213		JMP	FNMAX	
7D61:	A9	01		214	FNMIN	LDA	#1	
7D63:	2C			215		HEX	2C	
7D64:	A9	FF		216	FNMAX	LDA	#\$FF	
7D66:	85	B4		217		STA	XSAV	
7D68:	20	C6	7E	218		JSR	COMCHK	
				219		STFAC	WRKFA	
7D6B:	A2	BE		219		LDX	#WRKFA	
7D6D:	A0	9C		219		LDY	#>WRKFA	
7D6F:	20	2B	EB	219		JSR	MOVMF	
				219		<<<		
7D72:	20	53	EB	220		JSR	MOVFA	
				221		CMPRF	WRKFA	
				221		POINT	WRKFA	
7D75:	A9	BE		221		LDA	#WRKFA	
7D77:	A0	9C		221		LDY	#>WRKFA	
				221		<<<		
7D79:	20	B2	EB	221		JSR	FCOMP	
				221		<<<		
7D7C:	A2	00		222		LDX	#0	
7D7E:	C5	B4		223		CMP	XSAV	
7D80:	D0	09		224		BNE	:0	
				225		GETNUM	WRKFA	
				225		POINT	WRKFA	

7D82:	A9	BE		225		LDA	#WRKFA
7D84:	A0	9C		225		LDY	#>WRKFA
				225		<<<	
7D86:	20	F9	EA	225		JSR	MOVFM
				225		<<<	
7D89:	A2	01		226		LDX	#1
7D8B:	8E	C0	9C	227	:0	STX	FLGFN
7D8E:	60			228		RTS	
7D8F:	20	6A	DD	229	WPEEK	JSR	CHKNUM
7D92:	20	F8	7E	230		JSR	COMCHK30
7D95:	85	3D		231		STA	A1L+1
7D97:	84	3C		232		STY	A1L
7D99:	A0	01		233		LDY	#1
7D9B:	B1	3C		234		LDA	(A1L),Y
7D9D:	AA			235		TAX	
				236		DO	KOPT-K6502
7D9E:	B2	3C		237		LDA	(A1L)
				238		ELSE	
				239		DEY	
				240		LDA	(A1L),Y
				241		FIN	
7DA0:	A8			242	]CONT	TAY	
7DA1:	8A			243		TXA	
7DA2:	48			244		PHA	
7DA3:	20	F2	E2	245		JSR	GIVAYF
7DA6:	68			246		PLA	
7DA7:	2D	E7	9C	247		AND	WMODE
7DAA:	10	07		248		BPL	*+9
				249	OFST	ADDTO	C65536
				249		POINT	C65536
7DAC:	A9	0B		249		LDA	#C65536
7DAE:	A0	7F		249		LDY	#>C65536
				249		<<<	
7DB0:	20	BE	E7	249		JSR	FADD
				249		<<<	
7DB3:	60			250		RTS	
				251			
7DB4:	20	E9	7E	252	BINAND	JSR	COMCHK3
7DB7:	2D	BF	9C	253		AND	WRKFA+1
7DBA:	AA			254		TAX	
7DBB:	98			255		TYA	
7DBC:	2D	BE	9C	256		AND	WRKFA
				257		GOTO	]CONT
				257		DO	KOPT-K6502
7DBF:	80	DF		257		BRA	]CONT
				257		ELSE	
				257		JMP	]1
				257		FIN	
				257		<<<	
				258			
7DC1:	20	E9	7E	259	BINORA	JSR	COMCHK3
7DC4:	0D	BF	9C	260		ORA	WRKFA+1
7DC7:	AA			261		TAX	
7DC8:	98			262		TYA	
7DC9:	0D	BE	9C	263		ORA	WRKFA
				264		GOTO	]CONT
				264		DO	KOPT-K6502

7DCC:	80	D2	264		BRA	]CONT
			264		ELSE	
			264		JMP	]1
			264		FIN	
			264		<<<	
			265			
7DCE:	20	E9 7E	266	BINEOR	JSR	COMCHK3
7DD1:	4D	BF 9C	267		EOR	WRKFA+1
7DD4:	AA		268		TAX	
7DD5:	98		269		TYA	
7DD6:	4D	BE 9C	270		EOR	WRKFA
			271		GOTO	]CONT
			271		DO	KOPT-K6502
7DD9:	80	C5	271		BRA	]CONT
			271		ELSE	
			271		JMP	]1
			271		FIN	
			271		<<<	
			272			
7DDB:	20	CE 7E	273	LCM	JSR	COMCHK2
			274		MULBY	WRKFA
			274		POINT	WRKFA
7DDE:	A9	BE	274		LDA	#WRKFA
7DE0:	A0	9C	274		LDY	#>WRKFA
			274		<<<	
7DE2:	20	7F E9	274		JSR	FMULT
			274		<<<	
			275		STFAC	WRKFC
7DE5:	A2	C8	275		LDX	#WRKFC
7DE7:	A0	9C	275		LDY	#>WRKFC
7DE9:	20	2B EB	275		JSR	MOVFM
			275		<<<	
			276			
7DEC:	20	FA 7D	277		JSR	COMGCD
			278		DIVINTO	WRKFC
			278		POINT	WRKFC
7DEF:	A9	C8	278		LDA	#WRKFC
7DF1:	A0	9C	278		LDY	#>WRKFC
			278		<<<	
7DF3:	20	66 EA	278		JSR	FDIV
			278		<<<	
7DF6:	60		279		RTS	
			280			
			281	* Check that both arguments are numeric		
7DF7:	20	CE 7E	282	GCD	JSR	COMCHK2
			283			
			284	* 10 IF A<B THEN SWAP A,B		
			285	COMGCD	GETNUM	WRKFA
			285		POINT	WRKFA
7DFA:	A9	BE	285		LDA	#WRKFA
7DFC:	A0	9C	285		LDY	#>WRKFA
			285		<<<	
7DFE:	20	F9 EA	285		JSR	MOVFM
			285		<<<	
			286		CMPRF	WRKFB
			286		POINT	WRKFB
7E01:	A9	C3	286		LDA	#WRKFB

7E03:	A0 9C	286	LDY	#>WRKFB	
		286	<<<		
7E05:	20 B2 EB	286	JSR	FCOMP	
		286	<<<		
		287	DO	KOPT-K6502	
7E08:	1A	288	INC		
		289	ELSE		
		290	CMP	#\$FF	
		291	FIN		
7E09:	D0 12	292	BNE	L20	
		293	* Swaps A and B		
7E0B:	A2 04	294	LDX	#5-1	
7E0D:	BC BE 9C	295	]LOOP	LDY WRKFA,X	
7E10:	BD C3 9C	296	LDA	WRKFB,X	
7E13:	9D BE 9C	297	STA	WRKFA,X	
7E16:	98	298	TYA		
7E17:	9D C3 9C	299	STA	WRKFB,X	
7E1A:	CA	300	DEX		
7E1B:	10 F0	301	BPL	]LOOP	
		302	* 20 C=A-INT(A/B)*B		
		303	L20	GETNUM WRKFB	
		303	POINT	WRKFB	
7E1D:	A9 C3	303	LDA	#WRKFB	
7E1F:	A0 9C	303	LDY	#>WRKFB	
		303	<<<		
7E21:	20 F9 EA	303	JSR	MOVFM	
		303	<<<		
		304	DIVINTO	WRKFA	
		304	POINT	WRKFA	
7E24:	A9 BE	304	LDA	#WRKFA	
7E26:	A0 9C	304	LDY	#>WRKFA	
		304	<<<		
7E28:	20 66 EA	304	JSR	FDIV	
		304	<<<		
7E2B:	20 23 EC	305	JSR	FINT	
		306	MULBY	WRKFB	
		306	POINT	WRKFB	
7E2E:	A9 C3	306	LDA	#WRKFB	
7E30:	A0 9C	306	LDY	#>WRKFB	
		306	<<<		
7E32:	20 7F E9	306	JSR	FMULT	
		306	<<<		
		307	SUBFROM	WRKFA	A-INT(A/B)*B into FAC
		307	POINT	WRKFA	
7E35:	A9 BE	307	LDA	#WRKFA	
7E37:	A0 9C	307	LDY	#>WRKFA	
		307	<<<		
7E39:	20 A7 E7	307	JSR	FSUB	
		307	<<<		
		308	* :A=B		
7E3C:	A2 04	309	LDX	#5-1	
7E3E:	BD C3 9C	310	]LOOP	LDA WRKFB,X	
7E41:	9D BE 9C	311	STA	WRKFA,X	
7E44:	CA	312	DEX		
7E45:	10 F7	313	BPL	]LOOP	
		314	* :B=C		
		315	STFAC	WRKFB	

7E47:	A2 C3	315	LDX	#WRKFB	
7E49:	A0 9C	315	LDY	#>WRKFB	
7E4B:	20 2B EB	315	JSR	MOVFM	
		315	<<<		
		316	* :ON B>0	GOTO 20	
7E4E:	20 82 EB	317	JSR	SIGN	
		318	DO	KOPT-K6502	
7E51:	3A	319	DEC		
		320	ELSE		
		321	CMP	#1	
		322	FIN		
7E52:	F0 C9	323	BEQ	L20	
		324	* Result	in A	
		325	GETNUM	WRKFA	
		325	POINT	WRKFA	
7E54:	A9 BE	325	LDA	#WRKFA	
7E56:	A0 9C	325	LDY	#>WRKFA	
		325	<<<		
7E58:	20 F9 EA	325	JSR	MOVFM	
		325	<<<		
7E5B:	60	326	RET1	RTS	
		327			
		328	FACTNUM	EQU	\$C0
		329	CPTR	EQU	\$C1
		330			
7E5C:	4C 99 E1	331	JERR	JMP	ILQERR
7E5F:	20 6A DD	332	FACT	JSR	CHKNUM
7E62:	20 08 E1	333		JSR	MKINT
7E65:	A5 A0	334		LDA	FAC+3
7E67:	D0 F3	335		BNE	JERR
7E69:	A5 A1	336		LDA	FAC+4
7E6B:	C9 22	337		CMP	#34
7E6D:	B0 ED	338		BCS	JERR
7E6F:	85 C0	339		STA	FACTNUM
		340		DO	KOPT-K6502
7E71:	64 C1	341		STZ	CPTR
		342		ELSE	
		343		LDA	#0
		344		STA	CPTR
		345		FIN	
		346		GETNUM	K1
		346		POINT	K1
7E73:	A9 13	346		LDA	#K1
7E75:	A0 E9	346		LDY	#>K1
		346		<<<	
7E77:	20 F9 EA	346		JSR	MOVFM
		346		<<<	
		347		STFAC	WRKFC
7E7A:	A2 C8	347		LDX	#WRKFC
7E7C:	A0 9C	347		LDY	#>WRKFC
7E7E:	20 2B EB	347		JSR	MOVFM
		347		<<<	
		348	]LOOP	STFAC	WRKFB
7E81:	A2 C3	348		LDX	#WRKFB
7E83:	A0 9C	348		LDY	#>WRKFB
7E85:	20 2B EB	348		JSR	MOVFM
		348		<<<	

WRKFC: accumulateur

WRKFB: compteur 1..(FACTNUM)

7E88:	A5	C1	349	LDA	CPTR	
7E8A:	C5	C0	350	CMP	FACTNUM	
7E8C:	B0	20	351	BCS	:FIN	
7E8E:	E6	C1	352	INC	CPTR	
			353	MULBY	WRKFC	FAC devient FAC * WRKFC
			353	POINT	WRKFC	
7E90:	A9	C8	353	LDA	#WRKFC	
7E92:	A0	9C	353	LDY	#>WRKFC	
			353	<<<		
7E94:	20	7F	E9	353	JSR	FMULT
			353	<<<		
			354	STFAC	WRKFC	Remise dans l'accumulateur
7E97:	A2	C8	354	LDX	#WRKFC	
7E99:	A0	9C	354	LDY	#>WRKFC	
7E9B:	20	2B	EB	354	JSR	MOVFM
			354	<<<		
			355	GETNUM	WRKFB	Ajoute 1 au compteur
			355	POINT	WRKFB	
7E9E:	A9	C3	355	LDA	#WRKFB	
7EA0:	A0	9C	355	LDY	#>WRKFB	
			355	<<<		
7EA2:	20	F9	EA	355	JSR	MOVFM
			355	<<<		
			356	ADDTO	K1	avant de reboucler
			356	POINT	K1	
7EA5:	A9	13	356	LDA	#K1	
7EA7:	A0	E9	356	LDY	#>K1	
			356	<<<		
7EA9:	20	BE	E7	356	JSR	FADD
			356	<<<		
			357	GOTO	]LOOP	
			357	DO	KOPT-K6502	
7EAC:	80	D3	357	BRA	]LOOP	
			357	ELSE		
			357	JMP	]1	
			357	FIN		
			357	<<<		
			358	:FIN	GETNUM	WRKFC
			358		POINT	WRKFC
7EAE:	A9	C8	358	LDA	#WRKFC	
7EB0:	A0	9C	358	LDY	#>WRKFC	
			358	<<<		
7EB2:	20	F9	EA	358	JSR	MOVFM
			358	<<<		
7EB5:	60		359	RTS		
			360			
			361	* Test sign of FAC		
7EB6:	48		362	COMHDL	PHA	
7EB7:	20	82	EB	363	JSR	SIGN
			364	DO	KOPT-K6502	
7EBA:	1A		365	INC		
			366	ELSE		
			367	CMP	#\$FF	
			368	FIN		
7EBB:	F0	9F	369	BEQ	]ERR	Illegal quantity error
7EBD:	20	23	EC	370	JSR	FINT
			371	MPLX		

	371	DO	KOPT-K6502	
7EC0: FA	371	PLX		
	371	ELSE		
	371	PLA		
	371	TAX		
	371	FIN		
	371	<<<		
7EC1: A0 9C	372	LDY	#>WRKFA	
7EC3: 4C 2B EB	373	JMP	MOVMF	
	374			
	375	* Check both arguments are numeric		
7EC6: 20 6A DD	376	COMCHK	JSR	CHKNUM
7EC9: 24 BE	377		BIT	BISVTYPE
7ECB: 4C 6F DD	378		JMP	CHKVAL+2 Carry already clear
	379			
7ECE: 20 C6 7E	380	COMCHK2	JSR	COMCHK
7ED1: A5 9D	381		LDA	FAC
7ED3: F0 11	382		BEQ	:RET
7ED5: A9 BE	383		LDA	#WRKFA
7ED7: 20 B6 7E	384		JSR	COMHDL FAC into A
7EDA: 20 53 EB	385		JSR	MOVFA ARG into FAC
7EDD: A5 9D	386		LDA	FAC
7EDF: F0 05	387		BEQ	:RET
7EE1: A9 C3	388		LDA	#WRKFB
7EE3: 4C B6 7E	389		JMP	COMHDL FAC into B
7EE6: 68	390	:RET	PLA	
7EE7: 68	391		PLA	
7EE8: 60	392		RTS	
	393			
7EE9: 20 C6 7E	394	COMCHK3	JSR	COMCHK
7EEC: 20 F8 7E	395		JSR	COMCHK30 Unsigned integer in A,Y
7EEF: 8C BE 9C	396		STY	WRKFA
7EF2: 8D BF 9C	397		STA	WRKFA+1
7EF5: 20 53 EB	398		JSR	MOVFA ARG into FAC
7EF8: A5 51	399	COMCHK30	LDA	LINNUM+1
7EFA: 48	400		PHA	
7EFB: A5 50	401		LDA	LINNUM
7EFD: 48	402		PHA	
7EFE: 20 52 E7	403		JSR	GETADR
7F01: A6 51	404		LDX	LINNUM+1
7F03: 68	405		PLA	
7F04: 85 50	406		STA	LINNUM
7F06: 68	407		PLA	
7F07: 85 51	408		STA	LINNUM+1
7F09: 8A	409		TXA	
7F0A: 60	410		RTS	
	411			
	412	FCODE	EQU	*
	413			
	414	* Here begins the data segment		
7F0B: 91 00 00	415	C65536	HEX	9100000000
7F0E: 00 00				
	416	* here ends the dat		
	417	MFIN	EQU	*
	418		ERR	*-PHM
	419		ORG	

--End assembly, 669 bytes, Errors: 0

Symbol table - alphabetical order:

A1L	=\$3C	A2L	=\$3E	A4L	=\$42	MD ADDTO	=\$8000
? ARG	=\$A5	AROMBA	=\$40D6	BINAND	=\$7DB4	BINEOR	=\$7DCE
BINORA	=\$7DC1	BISVTYPE	=\$BE	C65536	=\$7F0B	CHKNUM	=\$DD6A
CHKVAL	=\$DD6D	MD CMPRF	=\$8000	COMCHK	=\$7EC6	COMCHK2	=\$7ECE
COMCHK3	=\$7EE9	COMCHK30	=\$7EF8	COMGCD	=\$7DFA	COMHDL	=\$7EB6
? CONUPK	=\$E9E3	CPTR	=\$C1	? DIVERR	=\$EAE1	MD DIVINTO	=\$8000
FAC	=\$9D	FACT	=\$7E5F	FACTNUM	=\$C0	FADD	=\$E7BE
? FATN	=\$F09E	FCODE	=\$7F0B	FCOMP	=\$EBB2	? FCOS	=\$EFEA
FDIV	=\$EA66	? FEXP	=\$EF09	? FIN	=\$EC4A	FINT	=\$EC23
FLGFN	=\$9CC0	? FLOAT	=\$EB93	? FLOG	=\$E941	MD?FMOV	=\$8000
FMULT	=\$E97F	FNDVAR2	=\$7D49	FNMAX	=\$7D64	? FNMIN	=\$7D61
? FOUT	=\$ED34	? FPWRT	=\$EE97	FRETOP	=\$6F	? FSIN	=\$EFF1
FSUB	=\$E7A7	? FTAN	=\$F03A	GCD	=\$7DF7	GETADR	=\$E752
MD GETNUM	=\$8000	GIVAYF	=\$E2F2	MD GOTO	=\$8000	MD?HALF	=\$8000
HIMEM	=\$73	ILQERR	=\$E199	INSDS2	=\$F88C	K1	=\$E913
K6502	=\$00	K65C02	=\$01	KOPT	=\$01	L20	=\$7E1D
LCM	=\$7DDB	LENGTH	=\$2F	LINNUM	=\$50	? LINPRT	=\$ED24
LN	=\$40C6	MC	=\$40B6	MFIN	=\$7F10	MINSDS2	=\$40A0
MKINT	=\$E108	MOVE	=\$FE2C	MOVFA	=\$EB53	MOVFM	=\$EAF9
MOVMF	=\$EB2B	MD MPLX	=\$8000	? MUL10	=\$EA39	MD MULBY	=\$8000
M? NC	=\$8000	? NEGOP	=\$EED0	OFST	=\$7DAC	? ONE	=\$E913
? OVERFLOW	=\$E8D5	PCADJ	=\$F953	PCL	=\$3A	PHM	=\$7F10
? PIHALF	=\$F066	MD POINT	=\$8000	? PRNTFAC	=\$ED2E	? QINT	=\$EBF2
? RET1	=\$7E5B	? RND	=\$EFAE	SIGN	=\$EB82	? SQR	=\$EE8D
MD STFAC	=\$8000	MD STID	=\$8000	MD SUBFROM	=\$8000	? SUITE	=\$4000
VECTUSR	=\$0A	WMODE	=\$9CE7	WPEEK	=\$7D8F	WRKFA	=\$9CBE
WRKFB	=\$9CC3	WRKFC	=\$9CC8	XSAV	=\$B4	V JCONT	=\$7DA0
V JERR	=\$7E5C	V JLOOP	=\$7E81				

Symbol table - numerical order:

K6502	=\$00	K65C02	=\$01	KOPT	=\$01	VECTUSR	=\$0A
LENGTH	=\$2F	PCL	=\$3A	A1L	=\$3C	A2L	=\$3E
A4L	=\$42	LINNUM	=\$50	FRETOP	=\$6F	HIMEM	=\$73
FAC	=\$9D	? ARG	=\$A5	XSAV	=\$B4	BISVTYPE	=\$BE
FACTNUM	=\$C0	CPTR	=\$C1	? SUITE	=\$4000	MINSDS2	=\$40A0
MC	=\$40B6	LN	=\$40C6	AROMBA	=\$40D6	FNDVAR2	=\$7D49
? FNMIN	=\$7D61	FNMAX	=\$7D64	WPEEK	=\$7D8F	V JCONT	=\$7DA0
OFST	=\$7DAC	BINAND	=\$7DB4	BINORA	=\$7DC1	BINEOR	=\$7DCE
LCM	=\$7DDB	GCD	=\$7DF7	COMGCD	=\$7DFA	L20	=\$7E1D
? RET1	=\$7E5B	V JERR	=\$7E5C	FACT	=\$7E5F	V JLOOP	=\$7E81
COMHDL	=\$7EB6	COMCHK	=\$7EC6	COMCHK2	=\$7ECE	COMCHK3	=\$7EE9
COMCHK30	=\$7EF8	FCODE	=\$7F0B	C65536	=\$7F0B	PHM	=\$7F10
MFIN	=\$7F10	M? NC	=\$8000	MD STID	=\$8000	MD GOTO	=\$8000
MD MPLX	=\$8000	MD CMPRF	=\$8000	MD MULBY	=\$8000	MD DIVINTO	=\$8000
MD SUBFROM	=\$8000	MD ADDTO	=\$8000	MD?FMOV	=\$8000	MD GETNUM	=\$8000
MD STFAC	=\$8000	MD POINT	=\$8000	MD?HALF	=\$8000	WRKFA	=\$9CBE
FLGFN	=\$9CC0	WRKFB	=\$9CC3	WRKFC	=\$9CC8	WMODE	=\$9CE7
CHKNUM	=\$DD6A	CHKVAL	=\$DD6D	MKINT	=\$E108	ILQERR	=\$E199
GIVAYF	=\$E2F2	GETADR	=\$E752	FSUB	=\$E7A7	FADD	=\$E7BE

? OVERFLOW=\$E8D5	? ONE = \$E913	K1 = \$E913	? FLOG = \$E941
FMULT = \$E97F	? CONUPK = \$E9E3	? MUL10 = \$EA39	FDIV = \$EA66
? DIVERR = \$EAE1	MOVFM = \$EAF9	MOVMF = \$EB2B	MOVFA = \$EB53
SIGN = \$EB82	? FLOAT = \$EB93	FCOMP = \$EBB2	? QINT = \$EBF2
FINT = \$EC23	? FIN = \$EC4A	? LINPRT = \$ED24	? PRNTFAC = \$ED2E
? FOUT = \$ED34	? SQR = \$EE8D	? FPWRT = \$EE97	? NEGOP = \$EED0
? FEXP = \$EF09	? RND = \$EFAE	? FCOS = \$EFEA	? FSIN = \$EFF1
? FTAN = \$F03A	? PIHALF = \$F066	? FATN = \$F09E	INSDS2 = \$F88C
PCADJ = \$F953	MOVE = \$FE2C		

