

Date: 24 Jun 86 14:36 PDT
 From: Masinter.pa
 Subject: Opcode survey
 To: Pedersen.pa
 cc: xclispcore↑

edits are in bold. We should meet to review what's in microcode and what the priority list should be. I suggest we do this at the end of the Common Lisp status meeting... does anyone have any objection to discussing it then?

OPCODES IMPLEMENTED IN MICROCODE BY MACHINE

Jan Pedersen

Key: '09 = 12K Dandelion
 '08 = 4K Dandelion
 '00 = Dolphin
 '32 = Dorado (as reported by Gwan)
 '32L = Dorado (as reported by Larry)
 '86-4 = 4K Daybreak
 '86-8 = 8K Daybreak
 X = Has microcode
 P = Prolog microcode set
 - = Doesn't have microcode
 ? = Don't know

Opcodes listed by entry in UFN table

op	'09	'08	'00	'32	'32L	'86-4	'86-8	Name
000	-	-	-	-	-	-	-	-X- *nobody implements:
causes an error!*								
001	X	X	X	X	X	X	X	CAR
002	X	X	X	X	X	X	X	CDR
003	X	X	X	X	X	X	X	LISTP
004	X	X	X	X	X	X	X	NTYPEX
005	X	X	X	X	X	X	X	TYPEP
006	X	X	X	X	X	X	X	DTEST {new COERCE}
007	-	-	-	-	-	-	-	CDDR {unused}
010	X	X	X	X	X	X	X	FNO
...	X	X	X	X	X	X	X	...
015	X	X	X	X	X	X	X	FNX
016	X	X	X	X	X	X	X	APPLYFN
017	-	-	-	-	X	-	-	CHECKAPPLY{?} [not 86-8?]
020	X	X	X	X	X	X	X	RETURN
021	X	X	X	X	X	X	X	BIND
022	X	X	X	X	X	X	X	UNBIND
023	X	X	X	X	X	X	X	DUNBIND
024	X	X	X	X	X	X	X	RPLPTR.N
025	X	X	X	X	X	X	X	GCREF
026	X	-	-	-	-	-	-	ASSOC [08 but not 86-8?]
027	X	X	X	X	X	X	X	GVAR←
030	X	-	X	X	X	X	X	RPLACA
031	X	-	X	X	X	X	X	RPLACD [which cases?]
032	X	X	X	X	X	X	X	CONS
033	-	-	-	-	-	-	-	{used for GETPROP}
034	X	-	-	-	-	-	-	FMEMB
035	-	-	-	-	-	-	-	{used for GETHASH}
036	-	-	-	-	-	-	-	{unused, named PUTHASH}
037	X	-	X	X	X	X	X	CREATECELL
040	X	-	X	X	X	X	X	BIN
041	-	-	-	-	-	-	-	BOUT {unused}
042	P	-	-	-	-	-	-	{Prolog}OPFETCHPLUSOPDISP
043	-	-	-	-	-	-	-	{unused, named LIST1}
044	-	-	-	-	-	-	-	DOCOLLECT {unused}
045	-	-	-	-	-	-	-	ENDCOLLECT {unused}
046	X	-	X	-	-	X	X	RPLCONS
047	X	-	-	-	-	-	-	LISTGET
050	-	-	-	-	-	-	-	ELT
051	-	-	-	-	-	-	-	NTHCHC
052	-	-	-	-	-	-	-	SETA

350	X	-	X	X	X	-	X	FPLUS2
351	X	-	X	X	X	-	X	FDIFFERENCE
352	X	-	X	X	X	-	X	FTIMES2
353	X	-	X	X	X	-	X	FQUOTIENT
354	X	-	-	-	-	-	-	UBFLOAT2 {UFADD, UFSUB, UFISUB, UFMULT, UFDIV, UGREAT, UMAX, UMIN, UREM}
355	X	-	-	-	X	-	-	UBFLOAT1 {UTOB, BTOU, UABS, UNEG, UFIX}
356	X	-	-	-	-	-	-	ARRAYREAD{GENERAL,UNBOXED}
357	X	-	-	-	-	-	-	ARRAYWRITE{GENERAL,UNBOXED}
360	X	X	X	X	X	X	X	EQ
361	X	X	X	X	X	X	X	IGREATERP
362	X	-	X	X	X	-	X	FGREATERP
363	X	X	X	X	X	X	X	GREATERP
364	X	X	?	?	X	-	X	EQUAL
365	X	-	X	X	X	-	X	MAKENUMBER
366	X	-	X	X	X	-	-	BOXIPLUS
367	X	-	X	X	X	-	-	BOXIDIFFERENCE
370	-	-	-	-	-	-	-	MISC5
371	X	-	-	-	-	-	-	FFTSTEP
372	X	-	-	-	-	-	-	MISC3
								{Floating Point Array ops: EXP, MAG, FLOAT, COMPLEX, BLKMAX, BLKMIN, BLKABSMAX, BLKABSMIN, FLOATTOBYTE}
373	X	-	-	-	-	-	-	MISC4
								{Floating Point Array ops: TIMES, PERM, PLUS, DIFFERENCE, MAGIC, BITMAPBIT}
374	-	-	?	-	X	-	-	{reserved for DOLPHIN}
375	X	X	X	X	X	X	X	SWAP
376	X	X	X	X	X	X	X	NOP
377	-	-	-	-	-	-	-	{unused}

notes:

4K microcode:

PLUS2, DIFFERENCE, TIMES2, QUOTIENT will ufn if args not INTEGERS

IPLUS2, IDIFFERENCE will accept FIXP's as arguments, but will ufn if result is not a smallp or smallneg

ITIMES2, IQUOTIENT, IREMAINDER will ufn if both args are not smallp

12K microcode:

PLUS2, DIFFERENCE, TIMES2, QUOTIENT will try floating point if args not INTEGERS

IPLUS2, IDIFFERENCE will accept FIXP's as arguments, and box the result if it is not a smallp or smallneg

ITIMES2, IQUOTIENT, IREMAINDER will ufn if both args are not smallp

—End of message—