0	- Alias -	- Group -	- Encoding -	#S = immediate (I=1). S = register. #D = immediate (L=1). D = register. - Assembly Syntax -
1	.	Miscellaneous	0000 0000000 000 000000000 000000000	NOP
2	.	Math and Logic	EEEE 0000000 CZI DDDDDDDDD SSSSSSSSS	ROR D,{#}S {WC/WZ/WCZ}
3	.	Math and Logic	EEEE 0000001 CZI DDDDDDDDD SSSSSSSSS	ROL D,{#}S {WC/WZ/WCZ}
4	.	Math and Logic	EEEE 0000010 CZI DDDDDDDDD SSSSSSSSS	SHR D,{#}S {WC/WZ/WCZ}
5	.	Math and Logic	EEEE 0000011 CZI DDDDDDDDD SSSSSSSSS	SHL D,{#}S {WC/WZ/WCZ}
6	.	Math and Logic	EEEE 0000100 CZI DDDDDDDDD SSSSSSSSS	RCR D,{#}S {WC/WZ/WCZ}
7	.	Math and Logic	EEEE 0000101 CZI DDDDDDDDD SSSSSSSSS	RCL D,{#}S {WC/WZ/WCZ}
8	.	Math and Logic	EEEE 0000110 CZI DDDDDDDDD SSSSSSSSS	SAR D,{#}S {WC/WZ/WCZ}
9	.	Math and Logic	EEEE 0000111 CZI DDDDDDDDD SSSSSSSSS	SAL D,{#}S {WC/WZ/WCZ}
10	.	Math and Logic	EEEE 0001000 CZI DDDDDDDDD SSSSSSSSS	ADD D,{#}S {WC/WZ/WCZ}
11	.	Math and Logic	EEEE 0001001 CZI DDDDDDDDD SSSSSSSSS	ADDX D,{#}S {WC/WZ/WCZ}
12	.	Math and Logic	EEEE 0001010 CZI DDDDDDDDD SSSSSSSSS	ADDS D,{#}S {WC/WZ/WCZ}
13	.	Math and Logic	EEEE 0001011 CZI DDDDDDDDD SSSSSSSSS	ADDSX D,{#}S {WC/WZ/WCZ}
14	.	Math and Logic	EEEE 0001100 CZI DDDDDDDDD SSSSSSSSS	SUB D,{#}S {WC/WZ/WCZ}
15	.	Math and Logic	EEEE 0001101 CZI DDDDDDDDD SSSSSSSSS	SUBX D,{#}S {WC/WZ/WCZ}
16	.	Math and Logic	EEEE 0001110 CZI DDDDDDDDD SSSSSSSSS	SUBS D,{#}S {WC/WZ/WCZ}
17	.	Math and Logic	EEEE 0001111 CZI DDDDDDDDD SSSSSSSSS	SUBSX D,{#}S {WC/WZ/WCZ}
18	.	Math and Logic	EEEE 0010000 CZI DDDDDDDDD SSSSSSSSS	CMP D,{#}S {WC/WZ/WCZ}
19	.	Math and Logic	EEEE 0010001 CZI DDDDDDDDD SSSSSSSSS	CMPX D,{#}S {WC/WZ/WCZ}
20	.	Math and Logic	EEEE 0010010 CZI DDDDDDDDD SSSSSSSSS	CMPS D,{#}S {WC/WZ/WCZ}
21	.	Math and Logic	EEEE 0010011 CZI DDDDDDDDD SSSSSSSSS	CMPSX D,{#}S {WC/WZ/WCZ}
22	.	Math and Logic	EEEE 0010100 CZI DDDDDDDDD SSSSSSSSS	CMPR D,{#}S {WC/WZ/WCZ}
23	.	Math and Logic	EEEE 0010101 CZI DDDDDDDDD SSSSSSSSS	CMPM D,{#}S {WC/WZ/WCZ}
24	.	Math and Logic	EEEE 0010110 CZI DDDDDDDDD SSSSSSSSS	SUBR D,{#}S {WC/WZ/WCZ}
25	.	Math and Logic	EEEE 0010111 CZI DDDDDDDDD SSSSSSSSS	CMPSUB D,{#}S {WC/WZ/WCZ}
26	.	Math and Logic	EEEE 0011000 CZI DDDDDDDDD SSSSSSSSS	FGE D,{#}S {WC/WZ/WCZ}
27	.	Math and Logic	EEEE 0011001 CZI DDDDDDDDD SSSSSSSSS	FLE D,{#}S {WC/WZ/WCZ}
28	.	Math and Logic	EEEE 0011010 CZI DDDDDDDDD SSSSSSSSS	FGES D,{#}S {WC/WZ/WCZ}
29	.	Math and Logic	EEEE 0011011 CZI DDDDDDDDD SSSSSSSSS	FLES D,{#}S {WC/WZ/WCZ}
30	.	Math and Logic	EEEE 0011100 CZI DDDDDDDDD SSSSSSSSS	SUMC D,{#}S {WC/WZ/WCZ}
31	.	Math and Logic	EEEE 0011101 CZI DDDDDDDDD SSSSSSSSS	SUMNC D,{#}S {WC/WZ/WCZ}
32	.	Math and Logic	EEEE 0011110 CZI DDDDDDDDD SSSSSSSSS	SUMZ D,{#}S {WC/WZ/WCZ}
33	.	Math and Logic	EEEE 0011111 CZI DDDDDDDDD SSSSSSSSS	SUMNZ D,{#}S {WC/WZ/WCZ}
34	.	Math and Logic	EEEE 0100000 CZI DDDDDDDDD SSSSSSSSS	TESTB D,{#}S WC/WZ
35	.	Math and Logic	EEEE 0100001 CZI DDDDDDDDD SSSSSSSSS	TESTBN D,{#}S WC/WZ
36	.	Math and Logic	EEEE 0100010 CZI DDDDDDDDD SSSSSSSSS	TESTB D,{#}S ANDC/ANDZ
37	.	Math and Logic	EEEE 0100011 CZI DDDDDDDDD SSSSSSSSS	TESTBN D,{#}S ANDC/ANDZ
38	.	Math and Logic	EEEE 0100100 CZI DDDDDDDDD SSSSSSSSS	TESTB D,{#}S ORC/ORZ

39	.	Math and Logic	EEEE 0100101 CZI DDDDDDDDD SSSSSSSSS	TESTBN D,{#}S ORC/ORZ
40	.	Math and Logic	EEEE 0100110 CZI DDDDDDDDD SSSSSSSSS	TESTB D,{#}S XORC/XORZ
41	.	Math and Logic	EEEE 0100111 CZI DDDDDDDDD SSSSSSSSS	TESTBN D,{#}S XORC/XORZ
42	.	Math and Logic	EEEE 0100000 CZI DDDDDDDDD SSSSSSSSS	BITL D,{#}S {WCZ}
43	.	Math and Logic	EEEE 0100001 CZI DDDDDDDDD SSSSSSSSS	BITH D,{#}S {WCZ}
44	.	Math and Logic	EEEE 0100010 CZI DDDDDDDDD SSSSSSSSS	BITC D,{#}S {WCZ}
45	.	Math and Logic	EEEE 0100011 CZI DDDDDDDDD SSSSSSSSS	BITNC D,{#}S {WCZ}
46	.	Math and Logic	EEEE 0100100 CZI DDDDDDDDD SSSSSSSSS	BITZ D,{#}S {WCZ}
47	.	Math and Logic	EEEE 0100101 CZI DDDDDDDDD SSSSSSSSS	BITNZ D,{#}S {WCZ}
48	.	Math and Logic	EEEE 0100110 CZI DDDDDDDDD SSSSSSSSS	BITRND D,{#}S {WCZ}
49	.	Math and Logic	EEEE 0100111 CZI DDDDDDDDD SSSSSSSSS	BITNOT D,{#}S {WCZ}
50	.	Math and Logic	EEEE 0101000 CZI DDDDDDDDD SSSSSSSSS	AND D,{#}S {WC/WZ/WCZ}
51	.	Math and Logic	EEEE 0101001 CZI DDDDDDDDD SSSSSSSSS	ANDN D,{#}S {WC/WZ/WCZ}
52	.	Math and Logic	EEEE 0101010 CZI DDDDDDDDD SSSSSSSSS	OR D,{#}S {WC/WZ/WCZ}
53	.	Math and Logic	EEEE 0101011 CZI DDDDDDDDD SSSSSSSSS	XOR D,{#}S {WC/WZ/WCZ}
54	.	Math and Logic	EEEE 0101100 CZI DDDDDDDDD SSSSSSSSS	MUXC D,{#}S {WC/WZ/WCZ}
55	.	Math and Logic	EEEE 0101101 CZI DDDDDDDDD SSSSSSSSS	MUXNC D,{#}S {WC/WZ/WCZ}
56	.	Math and Logic	EEEE 0101110 CZI DDDDDDDDD SSSSSSSSS	MUXZ D,{#}S {WC/WZ/WCZ}
57	.	Math and Logic	EEEE 0101111 CZI DDDDDDDDD SSSSSSSSS	MUXNZ D,{#}S {WC/WZ/WCZ}
58	.	Math and Logic	EEEE 0110000 CZI DDDDDDDDD SSSSSSSSS	MOV D,{#}S {WC/WZ/WCZ}
59	.	Math and Logic	EEEE 0110001 CZI DDDDDDDDD SSSSSSSSS	NOT D,{#}S {WC/WZ/WCZ}
60	alias	Math and Logic	EEEE 0110001 CZ0 DDDDDDDDD DDDDDDDDD	NOT D {WC/WZ/WCZ}
61	.	Math and Logic	EEEE 0110010 CZI DDDDDDDDD SSSSSSSSS	ABS D,{#}S {WC/WZ/WCZ}
62	alias	Math and Logic	EEEE 0110010 CZ0 DDDDDDDDD DDDDDDDDD	ABS D {WC/WZ/WCZ}
63	.	Math and Logic	EEEE 0110011 CZI DDDDDDDDD SSSSSSSSS	NEG D,{#}S {WC/WZ/WCZ}
64	alias	Math and Logic	EEEE 0110011 CZ0 DDDDDDDDD DDDDDDDDD	NEG D {WC/WZ/WCZ}
65	.	Math and Logic	EEEE 0110100 CZI DDDDDDDDD SSSSSSSSS	NEGC D,{#}S {WC/WZ/WCZ}
66	alias	Math and Logic	EEEE 0110100 CZ0 DDDDDDDDD DDDDDDDDD	NEGC D {WC/WZ/WCZ}
67	.	Math and Logic	EEEE 0110101 CZI DDDDDDDDD SSSSSSSSS	NEGNC D,{#}S {WC/WZ/WCZ}
68	alias	Math and Logic	EEEE 0110101 CZ0 DDDDDDDDD DDDDDDDDD	NEGNC D {WC/WZ/WCZ}
69	.	Math and Logic	EEEE 0110110 CZI DDDDDDDDD SSSSSSSSS	NEGZ D,{#}S {WC/WZ/WCZ}
70	alias	Math and Logic	EEEE 0110110 CZ0 DDDDDDDDD DDDDDDDDD	NEGZ D {WC/WZ/WCZ}
71	.	Math and Logic	EEEE 0110111 CZI DDDDDDDDD SSSSSSSSS	NEGNZ D,{#}S {WC/WZ/WCZ}
72	alias	Math and Logic	EEEE 0110111 CZ0 DDDDDDDDD DDDDDDDDD	NEGNZ D {WC/WZ/WCZ}
73	.	Math and Logic	EEEE 0111000 CZI DDDDDDDDD SSSSSSSSS	INCMOD D,{#}S {WC/WZ/WCZ}
74	.	Math and Logic	EEEE 0111001 CZI DDDDDDDDD SSSSSSSSS	DECMOD D,{#}S {WC/WZ/WCZ}
75	.	Math and Logic	EEEE 0111010 CZI DDDDDDDDD SSSSSSSSS	ZEROX D,{#}S {WC/WZ/WCZ}
76	.	Math and Logic	EEEE 0111011 CZI DDDDDDDDD SSSSSSSSS	SIGNX D,{#}S {WC/WZ/WCZ}
77	.	Math and Logic	EEEE 0111100 CZI DDDDDDDDD SSSSSSSSS	ENCOD D,{#}S {WC/WZ/WCZ}
78	alias	Math and Logic	EEEE 0111100 CZ0 DDDDDDDDD DDDDDDDDD	ENCOD D {WC/WZ/WCZ}

79	.	Math and Logic	EEEE 0111101 CZI DDDDDDDDD SSSSSSSSS	ONES D,{#}S {WC/WZ/WCZ}
80	alias	Math and Logic	EEEE 0111101 CZ0 DDDDDDDDD DDDDDDDDD	ONES D {WC/WZ/WCZ}
81	.	Math and Logic	EEEE 0111110 CZI DDDDDDDDD SSSSSSSSS	TEST D,{#}S {WC/WZ/WCZ}
82	alias	Math and Logic	EEEE 0111110 CZ0 DDDDDDDDD DDDDDDDDD	TEST D {WC/WZ/WCZ}
83	.	Math and Logic	EEEE 0111111 CZI DDDDDDDDD SSSSSSSSS	TESTN D,{#}S {WC/WZ/WCZ}
84	.	Math and Logic	EEEE 100000N NNI DDDDDDDDD SSSSSSSSS	SETNIB D,{#}S,#N
85	alias	Math and Logic	EEEE 1000000 00I 000000000 SSSSSSSSS	SETNIB {#}S
86	.	Math and Logic	EEEE 100001N NNI DDDDDDDDD SSSSSSSSS	GETNIB D,{#}S,#N
87	alias	Math and Logic	EEEE 1000010 000 DDDDDDDDD 000000000	GETNIB D
88	.	Math and Logic	EEEE 100010N NNI DDDDDDDDD SSSSSSSSS	ROLNIB D,{#}S,#N
89	alias	Math and Logic	EEEE 1000100 000 DDDDDDDDD 000000000	ROLNIB D
90	.	Math and Logic	EEEE 1000110 NNI DDDDDDDDD SSSSSSSSS	SETBYTE D,{#}S,#N
91	alias	Math and Logic	EEEE 1000110 00I 000000000 SSSSSSSSS	SETBYTE {#}S
92	.	Math and Logic	EEEE 1000111 NNI DDDDDDDDD SSSSSSSSS	GETBYTE D,{#}S,#N
93	alias	Math and Logic	EEEE 1000111 000 DDDDDDDDD 000000000	GETBYTE D
94	.	Math and Logic	EEEE 1001000 NNI DDDDDDDDD SSSSSSSSS	ROLBYTE D,{#}S,#N
95	alias	Math and Logic	EEEE 1001000 000 DDDDDDDDD 000000000	ROLBYTE D
96	.	Math and Logic	EEEE 1001001 0NI DDDDDDDDD SSSSSSSSS	SETWORD D,{#}S,#N
97	alias	Math and Logic	EEEE 1001001 00I 000000000 SSSSSSSSS	SETWORD {#}S
98	.	Math and Logic	EEEE 1001001 1NI DDDDDDDDD SSSSSSSSS	GETWORD D,{#}S,#N
99	alias	Math and Logic	EEEE 1001001 100 DDDDDDDDD 000000000	GETWORD D
100	.	Math and Logic	EEEE 1001010 0NI DDDDDDDDD SSSSSSSSS	ROLWORD D,{#}S,#N
101	alias	Math and Logic	EEEE 1001010 000 DDDDDDDDD 000000000	ROLWORD D
102	.	Register Indirection	EEEE 1001010 10I DDDDDDDDD SSSSSSSSS	ALTSN D,{#}S
103	alias	Register Indirection	EEEE 1001010 101 DDDDDDDDD 000000000	ALTSN D
104	.	Register Indirection	EEEE 1001010 11I DDDDDDDDD SSSSSSSSS	ALTGN D,{#}S
105	alias	Register Indirection	EEEE 1001010 111 DDDDDDDDD 000000000	ALTGN D
106	.	Register Indirection	EEEE 1001011 00I DDDDDDDDD SSSSSSSSS	ALTSB D,{#}S
107	alias	Register Indirection	EEEE 1001011 001 DDDDDDDDD 000000000	ALTSB D
108	.	Register Indirection	EEEE 1001011 01I DDDDDDDDD SSSSSSSSS	ALTGB D,{#}S
109	alias	Register Indirection	EEEE 1001011 011 DDDDDDDDD 000000000	ALTGB D
110	.	Register Indirection	EEEE 1001011 10I DDDDDDDDD SSSSSSSSS	ALTSW D,{#}S
111	alias	Register Indirection	EEEE 1001011 101 DDDDDDDDD 000000000	ALTSW D
112	.	Register Indirection	EEEE 1001011 11I DDDDDDDDD SSSSSSSSS	ALTGW D,{#}S
113	alias	Register Indirection	EEEE 1001011 111 DDDDDDDDD 000000000	ALTGW D
114	.	Register Indirection	EEEE 1001100 00I DDDDDDDDD SSSSSSSSS	ALTR D,{#}S
115	alias	Register Indirection	EEEE 1001100 001 DDDDDDDDD 000000000	ALTR D
116	.	Register Indirection	EEEE 1001100 01I DDDDDDDDD SSSSSSSSS	ALTD D,{#}S
117	alias	Register Indirection	EEEE 1001100 011 DDDDDDDDD 000000000	ALTD D
118	.	Register Indirection	EEEE 1001100 10I DDDDDDDDD SSSSSSSSS	ALTS D,{#}S

119	alias	Register Indirection	EEEE 1001100 101 DDDDDDDDD 000000000	ALTS D
120	.	Register Indirection	EEEE 1001100 11I DDDDDDDDD SSSSSSSSS	ALTB D,{#}S
121	alias	Register Indirection	EEEE 1001100 111 DDDDDDDDD 000000000	ALTB D
122	.	Register Indirection	EEEE 1001101 00I DDDDDDDDD SSSSSSSSS	ALTI D,{#}S
123	alias	Register Indirection	EEEE 1001101 001 DDDDDDDDD 101100100	ALTI D
124	.	Math and Logic	EEEE 1001101 01I DDDDDDDDD SSSSSSSSS	SETR D,{#}S
125	.	Math and Logic	EEEE 1001101 10I DDDDDDDDD SSSSSSSSS	SETD D,{#}S
126	.	Math and Logic	EEEE 1001101 11I DDDDDDDDD SSSSSSSSS	SETS D,{#}S
127	.	Math and Logic	EEEE 1001110 00I DDDDDDDDD SSSSSSSSS	DECOD D,{#}S
128	alias	Math and Logic	EEEE 1001110 000 DDDDDDDDD DDDDDDDDD	DECOD D
129	.	Math and Logic	EEEE 1001110 01I DDDDDDDDD SSSSSSSSS	BMASK D,{#}S
130	alias	Math and Logic	EEEE 1001110 010 DDDDDDDDD DDDDDDDDD	BMASK D
131	.	Math and Logic	EEEE 1001110 10I DDDDDDDDD SSSSSSSSS	CRCBIT D,{#}S
132	.	Math and Logic	EEEE 1001110 11I DDDDDDDDD SSSSSSSSS	CRCNIB D,{#}S
133	.	Math and Logic	EEEE 1001111 00I DDDDDDDDD SSSSSSSSS	MUXNITS D,{#}S
134	.	Math and Logic	EEEE 1001111 01I DDDDDDDDD SSSSSSSSS	MUXNIBS D,{#}S
135	.	Math and Logic	EEEE 1001111 10I DDDDDDDDD SSSSSSSSS	MUXQ D,{#}S
136	.	Math and Logic	EEEE 1001111 11I DDDDDDDDD SSSSSSSSS	MOVBYTS D,{#}S
137	.	Math and Logic	EEEE 1010000 0ZI DDDDDDDDD SSSSSSSSS	MUL D,{#}S {WZ}
138	.	Math and Logic	EEEE 1010000 1ZI DDDDDDDDD SSSSSSSSS	MULS D,{#}S {WZ}
139	.	Math and Logic	EEEE 1010001 0ZI DDDDDDDDD SSSSSSSSS	SCA D,{#}S {WZ}
140	.	Math and Logic	EEEE 1010001 1ZI DDDDDDDDD SSSSSSSSS	SCAS D,{#}S {WZ}
141	.	Pixel Mixer	EEEE 1010010 00I DDDDDDDDD SSSSSSSSS	ADDPIX D,{#}S
142	.	Pixel Mixer	EEEE 1010010 01I DDDDDDDDD SSSSSSSSS	MULPIX D,{#}S
143	.	Pixel Mixer	EEEE 1010010 10I DDDDDDDDD SSSSSSSSS	BLNPIX D,{#}S
144	.	Pixel Mixer	EEEE 1010010 11I DDDDDDDDD SSSSSSSSS	MIXPIX D,{#}S
145	.	Events - Configuration	EEEE 1010011 00I DDDDDDDDD SSSSSSSSS	ADDCT1 D,{#}S
146	.	Events - Configuration	EEEE 1010011 01I DDDDDDDDD SSSSSSSSS	ADDCT2 D,{#}S
147	.	Events - Configuration	EEEE 1010011 10I DDDDDDDDD SSSSSSSSS	ADDCT3 D,{#}S
148	.	Hub RAM - Write	EEEE 1010011 11I DDDDDDDDD SSSSSSSSS	WMLONG D,{#}S/P
149	.	Smart Pins	EEEE 1010100 C0I DDDDDDDDD SSSSSSSSS	RQPIN D,{#}S {WC}
150	.	Smart Pins	EEEE 1010100 C1I DDDDDDDDD SSSSSSSSS	RDPIN D,{#}S {WC}
151	.	Lookup Table	EEEE 1010101 CZI DDDDDDDDD SSSSSSSSS	RDLUT D,{#}S/P {WC/WZ/WCZ}
152	.	Hub RAM - Read	EEEE 1010110 CZI DDDDDDDDD SSSSSSSSS	RDBYTE D,{#}S/P {WC/WZ/WCZ}
153	.	Hub RAM - Read	EEEE 1010111 CZI DDDDDDDDD SSSSSSSSS	RDWORD D,{#}S/P {WC/WZ/WCZ}
154	.	Hub RAM - Read	EEEE 1011000 CZI DDDDDDDDD SSSSSSSSS	RDLONG D,{#}S/P {WC/WZ/WCZ}
155	alias	Hub RAM - Read	EEEE 1011000 CZ1 DDDDDDDDD 101011111	POPA D {WC/WZ/WCZ}
156	alias	Hub RAM - Read	EEEE 1011000 CZ1 DDDDDDDDD 111011111	POPB D {WC/WZ/WCZ}
157	.	Branch S - Call	EEEE 1011001 CZI DDDDDDDDD SSSSSSSSS	CALLD D,{#}S {WC/WZ/WCZ}
158	alias	Branch S - Resume	EEEE 1011001 110 111110000 111110001	RESI3

159	alias	Branch S - Resume	EEEE 1011001 110 111110010 111110011	RESI2
160	alias	Branch S - Resume	EEEE 1011001 110 111110100 111110101	RESI1
161	alias	Branch S - Resume	EEEE 1011001 110 111111110 111111111	RESI0
162	alias	Branch S - Return	EEEE 1011001 110 111111111 111110001	RETI3
163	alias	Branch S - Return	EEEE 1011001 110 111111111 111110011	RETI2
164	alias	Branch S - Return	EEEE 1011001 110 111111111 111110101	RETI1
165	alias	Branch S - Return	EEEE 1011001 110 111111111 111111111	RETI0
166	.	Branch S - Call	EEEE 1011010 0LI DDDDDDDDD SSSSSSSSS	CALLPA {#}D,{#}S
167	.	Branch S - Call	EEEE 1011010 1LI DDDDDDDDD SSSSSSSSS	CALLPB {#}D,{#}S
168	.	Branch S - Mod & Test	EEEE 1011011 00I DDDDDDDDD SSSSSSSSS	DJZ D,{#}S
169	.	Branch S - Mod & Test	EEEE 1011011 01I DDDDDDDDD SSSSSSSSS	DJNZ D,{#}S
170	.	Branch S - Mod & Test	EEEE 1011011 10I DDDDDDDDD SSSSSSSSS	DJF D,{#}S
171	.	Branch S - Mod & Test	EEEE 1011011 11I DDDDDDDDD SSSSSSSSS	DJNF D,{#}S
172	.	Branch S - Mod & Test	EEEE 1011100 00I DDDDDDDDD SSSSSSSSS	IJZ D,{#}S
173	.	Branch S - Mod & Test	EEEE 1011100 01I DDDDDDDDD SSSSSSSSS	IJNZ D,{#}S
174	.	Branch S - Test	EEEE 1011100 10I DDDDDDDDD SSSSSSSSS	TJZ D,{#}S
175	.	Branch S - Test	EEEE 1011100 11I DDDDDDDDD SSSSSSSSS	TJNZ D,{#}S
176	.	Branch S - Test	EEEE 1011101 00I DDDDDDDDD SSSSSSSSS	TJF D,{#}S
177	.	Branch S - Test	EEEE 1011101 01I DDDDDDDDD SSSSSSSSS	TJNF D,{#}S
178	.	Branch S - Test	EEEE 1011101 10I DDDDDDDDD SSSSSSSSS	TJS D,{#}S
179	.	Branch S - Test	EEEE 1011101 11I DDDDDDDDD SSSSSSSSS	TJNS D,{#}S
180	.	Branch S - Test	EEEE 1011110 00I DDDDDDDDD SSSSSSSSS	TJV D,{#}S
181	.	Events - Branch	EEEE 1011110 01I 000000000 SSSSSSSSS	JINT {#}S
182	.	Events - Branch	EEEE 1011110 01I 000000001 SSSSSSSSS	JCT1 {#}S
183	.	Events - Branch	EEEE 1011110 01I 000000010 SSSSSSSSS	JCT2 {#}S
184	.	Events - Branch	EEEE 1011110 01I 000000011 SSSSSSSSS	JCT3 {#}S
185	.	Events - Branch	EEEE 1011110 01I 000000100 SSSSSSSSS	JSE1 {#}S
186	.	Events - Branch	EEEE 1011110 01I 000000101 SSSSSSSSS	JSE2 {#}S
187	.	Events - Branch	EEEE 1011110 01I 000000110 SSSSSSSSS	JSE3 {#}S
188	.	Events - Branch	EEEE 1011110 01I 000000111 SSSSSSSSS	JSE4 {#}S
189	.	Events - Branch	EEEE 1011110 01I 000001000 SSSSSSSSS	JPAT {#}S
190	.	Events - Branch	EEEE 1011110 01I 000001001 SSSSSSSSS	JFBW {#}S
191	.	Events - Branch	EEEE 1011110 01I 000001010 SSSSSSSSS	JXMT {#}S
192	.	Events - Branch	EEEE 1011110 01I 000001011 SSSSSSSSS	JXFI {#}S
193	.	Events - Branch	EEEE 1011110 01I 000001100 SSSSSSSSS	JXRO {#}S
194	.	Events - Branch	EEEE 1011110 01I 000001101 SSSSSSSSS	JXRL {#}S
195	.	Events - Branch	EEEE 1011110 01I 000001110 SSSSSSSSS	JATN {#}S
196	.	Events - Branch	EEEE 1011110 01I 000001111 SSSSSSSSS	JQMT {#}S
197	.	Events - Branch	EEEE 1011110 01I 000010000 SSSSSSSSS	JNINT {#}S
198	.	Events - Branch	EEEE 1011110 01I 000010001 SSSSSSSSS	JNCT1 {#}S

199	.	Events - Branch	EEEE 1011110 01I 000010010 SSSSSSSSS	JNCT2 {#}S
200	.	Events - Branch	EEEE 1011110 01I 000010011 SSSSSSSSS	JNCT3 {#}S
201	.	Events - Branch	EEEE 1011110 01I 000010100 SSSSSSSSS	JNSE1 {#}S
202	.	Events - Branch	EEEE 1011110 01I 000010101 SSSSSSSSS	JNSE2 {#}S
203	.	Events - Branch	EEEE 1011110 01I 000010110 SSSSSSSSS	JNSE3 {#}S
204	.	Events - Branch	EEEE 1011110 01I 000010111 SSSSSSSSS	JNSE4 {#}S
205	.	Events - Branch	EEEE 1011110 01I 000011000 SSSSSSSSS	JNPAT {#}S
206	.	Events - Branch	EEEE 1011110 01I 000011001 SSSSSSSSS	JNFBW {#}S
207	.	Events - Branch	EEEE 1011110 01I 000011010 SSSSSSSSS	JNXMT {#}S
208	.	Events - Branch	EEEE 1011110 01I 000011011 SSSSSSSSS	JNXFI {#}S
209	.	Events - Branch	EEEE 1011110 01I 000011100 SSSSSSSSS	JNXRO {#}S
210	.	Events - Branch	EEEE 1011110 01I 000011101 SSSSSSSSS	JNXRL {#}S
211	.	Events - Branch	EEEE 1011110 01I 000011110 SSSSSSSSS	JNATN {#}S
212	.	Events - Branch	EEEE 1011110 01I 000011111 SSSSSSSSS	JNQMT {#}S
213		Miscellaneous	EEEE 1011110 1LI DDDDDDDDD SSSSSSSSS	<empty> {#}D,{#}S
214	.	Miscellaneous	EEEE 1011111 0LI DDDDDDDDD SSSSSSSSS	<empty> {#}D,{#}S
215	.	Events - Configuration	EEEE 1011111 1LI DDDDDDDDD SSSSSSSSS	SETPAT {#}D,{#}S
216	alias	Smart Pins	EEEE 1100000 01I 000000001 SSSSSSSSS	AKPIN {#}S
217	.	Smart Pins	EEEE 1100000 0LI DDDDDDDDD SSSSSSSSS	WRPIN {#}D,{#}S
218	.	Smart Pins	EEEE 1100000 1LI DDDDDDDDD SSSSSSSSS	WXPIN {#}D,{#}S
219	.	Smart Pins	EEEE 1100001 0LI DDDDDDDDD SSSSSSSSS	WYPIN {#}D,{#}S
220	.	Lookup Table	EEEE 1100001 1LI DDDDDDDDD SSSSSSSSS	WRLUT {#}D,{#}S/P
221	.	Hub RAM - Write	EEEE 1100010 0LI DDDDDDDDD SSSSSSSSS	WRBYTE {#}D,{#}S/P
222	.	Hub RAM - Write	EEEE 1100010 1LI DDDDDDDDD SSSSSSSSS	WRWORD {#}D,{#}S/P
223	.	Hub RAM - Write	EEEE 1100011 0LI DDDDDDDDD SSSSSSSSS	WRLONG {#}D,{#}S/P
224	alias	Hub RAM - Write	EEEE 1100011 0L1 DDDDDDDDD 101100001	PUSHA {#}D
225	alias	Hub RAM - Write	EEEE 1100011 0L1 DDDDDDDDD 111100001	PUSHB {#}D
226	.	Hub FIFO - New Read	EEEE 1100011 1LI DDDDDDDDD SSSSSSSSS	RDFAST {#}D,{#}S
227	.	Hub FIFO - New Write	EEEE 1100100 0LI DDDDDDDDD SSSSSSSSS	WRFAST {#}D,{#}S
228	.	Hub FIFO - New Block	EEEE 1100100 1LI DDDDDDDDD SSSSSSSSS	FBLOCK {#}D,{#}S
229	.	Streamer	EEEE 1100101 0LI DDDDDDDDD SSSSSSSSS	XINIT {#}D,{#}S
230	alias	Streamer	EEEE 1100101 011 000000000 000000000	XSTOP
231	.	Streamer	EEEE 1100101 1LI DDDDDDDDD SSSSSSSSS	XZERO {#}D,{#}S
232	.	Streamer	EEEE 1100110 0LI DDDDDDDDD SSSSSSSSS	XCONT {#}D,{#}S
233	.	Branch Repeat	EEEE 1100110 1LI DDDDDDDDD SSSSSSSSS	REP {#}D,{#}S
234	.	Hub Control - Cogs	EEEE 1100111 CLI DDDDDDDDD SSSSSSSSS	COGINIT {#}D,{#}S {WC}
235	.	CORDIC Solver	EEEE 1101000 0LI DDDDDDDDD SSSSSSSSS	QMUL {#}D,{#}S
236	.	CORDIC Solver	EEEE 1101000 1LI DDDDDDDDD SSSSSSSSS	QDIV {#}D,{#}S
237	.	CORDIC Solver	EEEE 1101001 0LI DDDDDDDDD SSSSSSSSS	QFRAC {#}D,{#}S
238	.	CORDIC Solver	EEEE 1101001 1LI DDDDDDDDD SSSSSSSSS	QSQRT {#}D,{#}S

239	.	CORDIC Solver	EEEE 1101010 0LI DDDDDDDDD SSSSSSSSS	QROTATE {#}D,{#}S
240	.	CORDIC Solver	EEEE 1101010 1LI DDDDDDDDD SSSSSSSSS	QVECTOR {#}D,{#}S
241	.	Hub Control - Multi	EEEE 1101011 00L DDDDDDDDD 000000000	HUBSET {#}D
242	.	Hub Control - Cogs	EEEE 1101011 C0L DDDDDDDDD 000000001	COGID {#}D {WC}
243	.	Hub Control - Cogs	EEEE 1101011 00L DDDDDDDDD 000000011	COGSTOP {#}D
244	.	Hub Control - Locks	EEEE 1101011 C00 DDDDDDDDD 000000100	LOCKNEW D {WC}
245	.	Hub Control - Locks	EEEE 1101011 00L DDDDDDDDD 000000101	LOCKRET {#}D
246	.	Hub Control - Locks	EEEE 1101011 C0L DDDDDDDDD 000000110	LOCKTRY {#}D {WC}
247	.	Hub Control - Locks	EEEE 1101011 C0L DDDDDDDDD 000000111	LOCKREL {#}D {WC}
248	.	CORDIC Solver	EEEE 1101011 00L DDDDDDDDD 000001110	QLOG {#}D
249	.	CORDIC Solver	EEEE 1101011 00L DDDDDDDDD 000001111	QEXP {#}D
250	.	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010000	RFBYTE D {WC/WZ/WCZ}
251	.	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010001	RFWORD D {WC/WZ/WCZ}
252	.	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010010	RFLONG D {WC/WZ/WCZ}
253	.	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010011	RFVAR D {WC/WZ/WCZ}
254	.	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010100	RFVARS D {WC/WZ/WCZ}
255	.	Hub FIFO - Write	EEEE 1101011 00L DDDDDDDDD 000010101	WFBYTE {#}D
256	.	Hub FIFO - Write	EEEE 1101011 00L DDDDDDDDD 000010110	WFWORD {#}D
257	.	Hub FIFO - Write	EEEE 1101011 00L DDDDDDDDD 000010111	WFLONG {#}D
258	.	CORDIC Solver	EEEE 1101011 CZ0 DDDDDDDDD 000011000	GETQX D {WC/WZ/WCZ}
259	.	CORDIC Solver	EEEE 1101011 CZ0 DDDDDDDDD 000011001	GETQY D {WC/WZ/WCZ}
260	.	Miscellaneous	EEEE 1101011 C00 DDDDDDDDD 000011010	GETCT D {WC}
261	.	Miscellaneous	EEEE 1101011 CZ0 DDDDDDDDD 000011011	GETRND D {WC/WZ/WCZ}
262	alias	Miscellaneous	EEEE 1101011 CZ1 000000000 000011011	GETRND WC/WZ/WCZ
263	.	Smart Pins	EEEE 1101011 00L DDDDDDDDD 000011100	SETDACS {#}D
264	.	Streamer	EEEE 1101011 00L DDDDDDDDD 000011101	SETXFRQ {#}D
265	.	Streamer	EEEE 1101011 000 DDDDDDDDD 000011110	GETXACC D
266	.	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000011111	WAITX {#}D {WC/WZ/WCZ}
267	.	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100000	SETSE1 {#}D
268	.	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100001	SETSE2 {#}D
269	.	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100010	SETSE3 {#}D
270	.	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100011	SETSE4 {#}D
271	.	Events - Poll	EEEE 1101011 CZ0 000000000 000100100	POLLINT {WC/WZ/WCZ}
272	.	Events - Poll	EEEE 1101011 CZ0 000000001 000100100	POLLCT1 {WC/WZ/WCZ}
273	.	Events - Poll	EEEE 1101011 CZ0 000000010 000100100	POLLCT2 {WC/WZ/WCZ}
274	.	Events - Poll	EEEE 1101011 CZ0 000000011 000100100	POLLCT3 {WC/WZ/WCZ}
275	.	Events - Poll	EEEE 1101011 CZ0 000000100 000100100	POLLSE1 {WC/WZ/WCZ}
276	.	Events - Poll	EEEE 1101011 CZ0 000000101 000100100	POLLSE2 {WC/WZ/WCZ}
277	.	Events - Poll	EEEE 1101011 CZ0 000000110 000100100	POLLSE3 {WC/WZ/WCZ}
278	.	Events - Poll	EEEE 1101011 CZ0 000000111 000100100	POLLSE4 {WC/WZ/WCZ}

279	.	Events - Poll	EEEE 1101011 CZ0 000001000 000100100	POLLPAT {WC/WZ/WCZ}
280	.	Events - Poll	EEEE 1101011 CZ0 000001001 000100100	POLLFBW {WC/WZ/WCZ}
281	.	Events - Poll	EEEE 1101011 CZ0 000001010 000100100	POLLXMT {WC/WZ/WCZ}
282	.	Events - Poll	EEEE 1101011 CZ0 000001011 000100100	POLLXFI {WC/WZ/WCZ}
283	.	Events - Poll	EEEE 1101011 CZ0 000001100 000100100	POLLXRO {WC/WZ/WCZ}
284	.	Events - Poll	EEEE 1101011 CZ0 000001101 000100100	POLLXRL {WC/WZ/WCZ}
285	.	Events - Poll	EEEE 1101011 CZ0 000001110 000100100	POLLATN {WC/WZ/WCZ}
286	.	Events - Poll	EEEE 1101011 CZ0 000001111 000100100	POLLQMT {WC/WZ/WCZ}
287	.	Events - Wait	EEEE 1101011 CZ0 000010000 000100100	WAITINT {WC/WZ/WCZ}
288	.	Events - Wait	EEEE 1101011 CZ0 000010001 000100100	WAITCT1 {WC/WZ/WCZ}
289	.	Events - Wait	EEEE 1101011 CZ0 000010010 000100100	WAITCT2 {WC/WZ/WCZ}
290	.	Events - Wait	EEEE 1101011 CZ0 000010011 000100100	WAITCT3 {WC/WZ/WCZ}
291	.	Events - Wait	EEEE 1101011 CZ0 000010100 000100100	WAITSE1 {WC/WZ/WCZ}
292	.	Events - Wait	EEEE 1101011 CZ0 000010101 000100100	WAITSE2 {WC/WZ/WCZ}
293	.	Events - Wait	EEEE 1101011 CZ0 000010110 000100100	WAITSE3 {WC/WZ/WCZ}
294	.	Events - Wait	EEEE 1101011 CZ0 000010111 000100100	WAITSE4 {WC/WZ/WCZ}
295	.	Events - Wait	EEEE 1101011 CZ0 000011000 000100100	WAITPAT {WC/WZ/WCZ}
296	.	Events - Wait	EEEE 1101011 CZ0 000011001 000100100	WAITFBW {WC/WZ/WCZ}
297	.	Events - Wait	EEEE 1101011 CZ0 000011010 000100100	WAITXMT {WC/WZ/WCZ}
298	.	Events - Wait	EEEE 1101011 CZ0 000011011 000100100	WAITXFI {WC/WZ/WCZ}
299	.	Events - Wait	EEEE 1101011 CZ0 000011100 000100100	WAITXRO {WC/WZ/WCZ}
300	.	Events - Wait	EEEE 1101011 CZ0 000011101 000100100	WAITXRL {WC/WZ/WCZ}
301	.	Events - Wait	EEEE 1101011 CZ0 000011110 000100100	WAITATN {WC/WZ/WCZ}
302	.	Interrupts	EEEE 1101011 000 000100000 000100100	ALLOWI
303	.	Interrupts	EEEE 1101011 000 000100001 000100100	STALLI
304	.	Interrupts	EEEE 1101011 000 000100010 000100100	TRGINT1
305	.	Interrupts	EEEE 1101011 000 000100011 000100100	TRGINT2
306	.	Interrupts	EEEE 1101011 000 000100100 000100100	TRGINT3
307	.	Interrupts	EEEE 1101011 000 000100101 000100100	NIXINT1
308	.	Interrupts	EEEE 1101011 000 000100110 000100100	NIXINT2
309	.	Interrupts	EEEE 1101011 000 000100111 000100100	NIXINT3
310	.	Interrupts	EEEE 1101011 00L DDDDDDDDD 000100101	SETINT1 {#}D
311	.	Interrupts	EEEE 1101011 00L DDDDDDDDD 000100110	SETINT2 {#}D
312	.	Interrupts	EEEE 1101011 00L DDDDDDDDD 000100111	SETINT3 {#}D
313	.	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000101000	SETQ {#}D
314	.	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000101001	SETQ2 {#}D
315	.	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000101010	PUSH {#}D
316	.	Miscellaneous	EEEE 1101011 CZ0 DDDDDDDDD 000101011	POP D {WC/WZ/WCZ}
317	.	Branch D - Jump	EEEE 1101011 CZ0 DDDDDDDDD 000101100	JMP D {WC/WZ/WCZ}
318	.	Branch D - Call	EEEE 1101011 CZ0 DDDDDDDDD 000101101	CALL D {WC/WZ/WCZ}

319	.	Branch Return	EEEE 1101011 CZ1 000000000 000101101	RET {WC/WZ/WCZ}
320	.	Branch D - Call	EEEE 1101011 CZ0 DDDDDDDDD 000101110	CALLA D {WC/WZ/WCZ}
321	.	Branch Return	EEEE 1101011 CZ1 000000000 000101110	RETA {WC/WZ/WCZ}
322	.	Branch D - Call	EEEE 1101011 CZ0 DDDDDDDDD 000101111	CALLB D {WC/WZ/WCZ}
323	.	Branch Return	EEEE 1101011 CZ1 000000000 000101111	RETB {WC/WZ/WCZ}
324	.	Branch D - Jump	EEEE 1101011 00L DDDDDDDDD 000110000	JMPREL {#}D
325	.	Branch D - Skip	EEEE 1101011 00L DDDDDDDDD 000110001	SKIP {#}D
326	.	Branch D - Jump+Skip	EEEE 1101011 00L DDDDDDDDD 000110010	SKIPF {#}D
327	.	Branch D - Call+Skip	EEEE 1101011 00L DDDDDDDDD 000110011	EXECF {#}D
328	.	Hub FIFO	EEEE 1101011 000 DDDDDDDDD 000110100	GETPTR D
329	.	Interrupts	EEEE 1101011 CZ0 DDDDDDDDD 000110101	GETBRK D WC/WZ/WCZ
330	.	Interrupts	EEEE 1101011 00L DDDDDDDDD 000110101	COGBRK {#}D
331	.	Interrupts	EEEE 1101011 00L DDDDDDDDD 000110110	BRK {#}D
332	.	Lookup Table	EEEE 1101011 00L DDDDDDDDD 000110111	SETLUTS {#}D
333	.	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111000	SETCY {#}D
334	.	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111001	SETCI {#}D
335	.	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111010	SETCQ {#}D
336	.	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111011	SETCFRQ {#}D
337	.	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111100	SETCMOD {#}D
338	.	Pixel Mixer	EEEE 1101011 00L DDDDDDDDD 000111101	SETPIV {#}D
339	.	Pixel Mixer	EEEE 1101011 00L DDDDDDDDD 000111110	SETPIX {#}D
340	.	Events - Attention	EEEE 1101011 00L DDDDDDDDD 000111111	COGATN {#}D
341	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000000	TESTP {#}D WC/WZ
342	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000001	TESTPN {#}D WC/WZ
343	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000010	TESTP {#}D ANDC/ANDZ
344	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000011	TESTPN {#}D ANDC/ANDZ
345	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000100	TESTP {#}D ORC/ORZ
346	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000101	TESTPN {#}D ORC/ORZ
347	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000110	TESTP {#}D XORC/XORZ
348	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000111	TESTPN {#}D XORC/XORZ
349	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000000	DIRL {#}D {WCZ}
350	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000001	DIRH {#}D {WCZ}
351	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000010	DIRC {#}D {WCZ}
352	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000011	DIRNC {#}D {WCZ}
353	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000100	DIRZ {#}D {WCZ}
354	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000101	DIRNZ {#}D {WCZ}
355	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000110	DIRRND {#}D {WCZ}
356	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001000111	DIRNOT {#}D {WCZ}
357	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001000	OUTL {#}D {WCZ}
358	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001001	OUTH {#}D {WCZ}

359	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001010	OUTC {#}D {WCZ}
360	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001011	OUTNC {#}D {WCZ}
361	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001100	OUTZ {#}D {WCZ}
362	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001101	OUTNZ {#}D {WCZ}
363	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001110	OUTRND {#}D {WCZ}
364	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001001111	OUTNOT {#}D {WCZ}
365	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010000	FLTL {#}D {WCZ}
366	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010001	FLTH {#}D {WCZ}
367	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010010	FLTC {#}D {WCZ}
368	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010011	FLTNC {#}D {WCZ}
369	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010100	FLTZ {#}D {WCZ}
370	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010101	FLTNZ {#}D {WCZ}
371	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010110	FLTRND {#}D {WCZ}
372	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001010111	FLTNOT {#}D {WCZ}
373	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011000	DRVL {#}D {WCZ}
374	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011001	DRVH {#}D {WCZ}
375	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011010	DRVC {#}D {WCZ}
376	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011011	DRVNC {#}D {WCZ}
377	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011100	DRVZ {#}D {WCZ}
378	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011101	DRVNZ {#}D {WCZ}
379	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011110	DRVRND {#}D {WCZ}
380	.	Pins	EEEE 1101011 CZL DDDDDDDDD 001011111	DRVNOT {#}D {WCZ}
381	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100000	SPLITB D
382	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100001	MERGEB D
383	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100010	SPLITW D
384	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100011	MERGEW D
385	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100100	SEUSSF D
386	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100101	SEUSSR D
387	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100110	RGBSQZ D
388	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100111	RGBEXP D
389	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101000	XORO32 D
390	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101001	REV D
391	.	Math and Logic	EEEE 1101011 CZ0 DDDDDDDDD 001101010	RCZR D {WC/WZ/WCZ}
392	.	Math and Logic	EEEE 1101011 CZ0 DDDDDDDDD 001101011	RCZL D {WC/WZ/WCZ}
393	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101100	WRC D
394	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101101	WRNC D
395	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101110	WRZ D
396	.	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101111	WRNZ D
397	.	Math and Logic	EEEE 1101011 CZ1 0cccczzzz 001101111	MODCZ c,z {WC/WZ/WCZ}
398	alias	Math and Logic	EEEE 1101011 C01 0cccc0000 001101111	MODC c {WC}

399	alias	Math and Logic	EEEE 1101011 0Z1 00000zzzz 001101111	MODZ z {WZ}
400	.	Smart Pins	EEEE 1101011 00L DDDDDDDDD 001110000	SETSCP {#}D
401	.	Smart Pins	EEEE 1101011 000 DDDDDDDDD 001110001	GETSCP D
402	.	Branch A - Jump	EEEE 1101100 RAA AAAAAAAAA AAAAAAAAA	JMP #{\}A
403	.	Branch A - Call	EEEE 1101101 RAA AAAAAAAAA AAAAAAAAA	CALL #{\}A
404	.	Branch A - Call	EEEE 1101110 RAA AAAAAAAAA AAAAAAAAA	CALLA #{\}A
405	.	Branch A - Call	EEEE 1101111 RAA AAAAAAAAA AAAAAAAAA	CALLB #{\}A
406	.	Branch A - Call	EEEE 11100WW RAA AAAAAAAAA AAAAAAAAA	CALLD PA/PB/PTRA/PTRB,#{\}A
407	.	Math and Logic	EEEE 11101WW RAA AAAAAAAAA AAAAAAAAA	LOC PA/PB/PTRA/PTRB,#{\}A
408	.	Miscellaneous	EEEE 11110NN NNN NNNNNNNNN NNNNNNNNN	AUGS #N
409	.	Miscellaneous	EEEE 11111NN NNN NNNNNNNNN NNNNNNNNN	AUGD #N
410				
411	.	Instruction Prefix	0000 ------- --- --------- ---------	_RET_ <inst> <ops>
412	.	Instruction Prefix	0001 ------- --- --------- ---------	IF_NC_AND_NZ <inst> <ops>
413	alias	Instruction Prefix	0001 ------- --- --------- ---------	IF_NZ_AND_NC <inst> <ops>
414	alias	Instruction Prefix	0001 ------- --- --------- ---------	IF_A <inst> <ops>
415	alias	Instruction Prefix	0001 ------- --- --------- ---------	IF_00 <inst> <ops>
416	.	Instruction Prefix	0010 ------- --- --------- ---------	IF_NC_AND_Z <inst> <ops>
417	alias	Instruction Prefix	0010 ------- --- --------- ---------	IF_Z_AND_NC <inst> <ops>
418	alias	Instruction Prefix	0010 ------- --- --------- ---------	IF_01 <inst> <ops>
419	.	Instruction Prefix	0011 ------- --- --------- ---------	IF_NC <inst> <ops>
420	alias	Instruction Prefix	0011 ------- --- --------- ---------	IF_AE <inst> <ops>
421	alias	Instruction Prefix	0011 ------- --- --------- ---------	IF_0X <inst> <ops>
422	.	Instruction Prefix	0100 ------- --- --------- ---------	IF_C_AND_NZ <inst> <ops>
423	alias	Instruction Prefix	0100 ------- --- --------- ---------	IF_NZ_AND_C <inst> <ops>
424	alias	Instruction Prefix	0100 ------- --- --------- ---------	IF_10 <inst> <ops>
425	.	Instruction Prefix	0101 ------- --- --------- ---------	IF_NZ <inst> <ops>
426	alias	Instruction Prefix	0101 ------- --- --------- ---------	IF_NE <inst> <ops>
427	alias	Instruction Prefix	0101 ------- --- --------- ---------	IF_X0 <inst> <ops>
428	.	Instruction Prefix	0110 ------- --- --------- ---------	IF_C_NE_Z <inst> <ops>
429	alias	Instruction Prefix	0110 ------- --- --------- ---------	IF_Z_NE_C <inst> <ops>
430	alias	Instruction Prefix	0110 ------- --- --------- ---------	IF_DIFF <inst> <ops>
431	.	Instruction Prefix	0111 ------- --- --------- ---------	IF_NC_OR_NZ <inst> <ops>
432	alias	Instruction Prefix	0111 ------- --- --------- ---------	IF_NZ_OR_NC <inst> <ops>
433	alias	Instruction Prefix	0111 ------- --- --------- ---------	IF_NOT_11 <inst> <ops>
434	.	Instruction Prefix	1000 ------- --- --------- ---------	IF_C_AND_Z <inst> <ops>
435	alias	Instruction Prefix	1000 ------- --- --------- ---------	IF_Z_AND_C <inst> <ops>
436	alias	Instruction Prefix	1000 ------- --- --------- ---------	IF_11 <inst> <ops>
437	.	Instruction Prefix	1001 ------- --- --------- ---------	IF_C_EQ_Z <inst> <ops>
438	alias	Instruction Prefix	1001 ------- --- --------- ---------	IF_Z_EQ_C <inst> <ops>

439	alias	**Instruction Prefix**	1001 ------- --- --------- ---------	IF_SAME	<inst> <ops>
440	.	**Instruction Prefix**	1010 ------- --- --------- ---------	IF_Z	<inst> <ops>
441	alias	**Instruction Prefix**	1010 ------- --- --------- ---------	IF_E	<inst> <ops>
442	alias	**Instruction Prefix**	1010 ------- --- --------- ---------	IF_X1	<inst> <ops>
443	.	**Instruction Prefix**	1011 ------- --- --------- ---------	IF_NC_OR_Z	<inst> <ops>
444	alias	**Instruction Prefix**	1011 ------- --- --------- ---------	IF_Z_OR_NC	<inst> <ops>
445	alias	**Instruction Prefix**	1011 ------- --- --------- ---------	IF_NOT_10	<inst> <ops>
446	.	**Instruction Prefix**	1100 ------- --- --------- ---------	IF_C	<inst> <ops>
447	alias	**Instruction Prefix**	1100 ------- --- --------- ---------	IF_B	<inst> <ops>
448	alias	**Instruction Prefix**	1100 ------- --- --------- ---------	IF_1X	<inst> <ops>
449	.	**Instruction Prefix**	1101 ------- --- --------- ---------	IF_C_OR_NZ	<inst> <ops>
450	alias	**Instruction Prefix**	1101 ------- --- --------- ---------	IF_NZ_OR_C	<inst> <ops>
451	alias	**Instruction Prefix**	1101 ------- --- --------- ---------	IF_NOT_01	<inst> <ops>
452	.	**Instruction Prefix**	1110 ------- --- --------- ---------	IF_C_OR_Z	<inst> <ops>
453	alias	**Instruction Prefix**	1110 ------- --- --------- ---------	IF_Z_OR_C	<inst> <ops>
454	alias	**Instruction Prefix**	1110 ------- --- --------- ---------	IF_BE	<inst> <ops>
455	alias	**Instruction Prefix**	1110 ------- --- --------- ---------	IF_NOT_00	<inst> <ops>
456	.	**Instruction Prefix**	1111 ------- --- --------- ---------		<inst> <ops>