	0 / 8	3	1 / 9	•	2 / 4		3 / E	3	4 / 0	2	5 / 1	)	6 / E	1	7 / 1	F
0-	NOP	4	LD BC,nn	10	LD (BC),A	7	INC BC	6	INC B	4	DEC B	4	LD B,n	7	RLCA	4
0+	EX AF, AF'	4	ADD HL,BC	11	LD A,(BC)	7	DEC BC	6	INC C	4	DEC C	4	LD C,n	7	RRCA	4
1-	DJNZ d	13 8	LD DE,nn	10	LD (DE),A	7	INC DE	6	INC D	4	DEC D	4	LD D,n	7	RLA	4
1+	JR d	12	ADD HL,DE	11	LD A,(DE)	7	DEC DE	6	INC E	4	DEC E	4	LD E,n	7	RRA	4
2-	JR NZ,d	12 7	LD HL,nn	10	LD (nn),HL	16	INC HL	6	INC H	4	DEC H	4	LD H,n	7	DAA	
2+	JR Z,d	12 7	ADD HL,HL	11	LD HL,(nn)	16	DEC HL	6	INC L	4	DEC L	4	LD L,n	7	CPL	
3-	JR NC,d	12 7	LD SP,nn	10	LD (nn),A	13	INC SP	6	INC (HL)	7	DEC (HL)	7	LD (HL),n	10	SCF	
3+	JR C,d	12 7	ADD HL,SP	11	LD A,(nn)	13	DEC SP	6	INC A	4	DEC A	4	LD A,n	7	CCF	
4-	LD B,B	4	LD B,C	4	LD B,D	4	LD B,E	4	LD B,H	4	LD B,L	4	LD B,(HL)	7	LD B,A	
4+	LD C,B	4	LD C,C	4	LD C,D	4	LD C,E	4	LD C,H	4	LD C,L	4	LD C,(HL)	7	LD C,A	
5-	LD D,B	4	LD D,C	4	LD D,D	4	LD D,E	4	LD D,H	4	LD D,L	4	LD D,(HL)	7	LD D,A	
5+	LD E,B	4	LD E,C	4	LD E,D	4	LD E,E	4	LD E,H	4	LD E,L	4	LD E,(HL)	7	LD E,A	
6-	LD H,B	4	LD H,C	4	LD H,D	4	LD H,E	4	LD H,H	4	LD H,L	4	LD H,(HL)	7	LD H,A	
6+	LD L,B	4	LD L,C	4	LD L,D	4	LD L,E	4	LD L,H	4	LD L,L	4	LD L,(HL)	7	LD L,A	
7-	LD (HL),B	7	LD (HL),C	7	LD (HL),D	7	LD (HL),E	7	LD (HL),H	7	LD (HL),L	7	HALT	4	LD (HL),A	
7+	LD A,B	4	LD A,C	4	LD A,D	4	LD A,E	4	LD A,H	4	LD A,L	4	LD A,(HL)	7	LD A,A	
8-	ADD A,B	4	ADD A,C	4	ADD A,D	4	ADD A,E	4	ADD A,H	4	ADD A,L	4	ADD A,(HL)	7	ADD A,A	
8+	ADC A,B	4	ADC A,C	4	ADC A,D	4	ADC A,E	4	ADC A,H	4	ADC A,L	4	ADC A,(HL)	7	ADC A,A	
9-	SUB B	4	SUB C	4	SUB D	4	SUB E	4	SUB H	4	SUB L	4	SUB (HL)	7	SUB A	
9+	SBC A,B	4	SBC A,C	4	SBC A,D	4	SBC A,E	4	SBC A,H	4	SBC A,L	4	SBC A,(HL)	7	SBC A,A	
A-	AND B	4	AND C	4	AND D	4	AND E	4	AND H	4	AND L	4	AND (HL)	7	AND A	
A+	XOR B	4	XOR C	4	XOR D	4	XOR E	4	XOR H	4	XOR L	4	XOR (HL)	7	XOR A	
B-	OR B	4	OR C	4	OR D	4	OR E	4	OR H	4	OR L	4	OR (HL)	7	OR A	
B+	CP B	4	CP C	4	CP D	4	CP E	4	CP H	4	CP L	4	CP (HL)	7	CP A	
C-	RET NZ	11 5	POP BC	10	JP NZ,nn	10	JP nn	10	CALL NZ,nn	17 10	PUSH BC	11	ADD A,n	7	RST 00	1
C+	RET Z	11 5	RET	10	JP Z,nn	10	CB		CALL Z,nn	17 10	CALL nn	17	ADC A,n	7	RST 08	1
D-	RET NC	11 5	POP DE	10	JP NC,nn	10	OUT (n),A	11	CALL NC,nn	17 10	PUSH DE	11	SUB n	7	RST 10	1
D+	RET C	11 5	EXX	4	JP C,nn	10	IN A,(n)	11	CALL C,nn	17 10	DD		SBC A,n	7	RST 18	1
E-	RET PO	11 5	POP HL	10	JP PO,nn	10	EX (SP),HL	19	CALL PO,nn	17 10	PUSH HL	11	AND n	7	RST 20	1
E+	RET PE	11 5	JP (HL)	4	JP PE,nn	10	EX DE,HL	4	CALL PE,nn	17 10	ED	-	XOR n	7	RST 28	1
F-	RET P	11 5	POP AF	10	JP P,nn	10	DI	4	CALL P,nn	17 10	PUSH AF	11	OR n	7	RST 30	1
F+	RET M	11 5	LD SP,HL	6	JP M,nn	10	EI	4	CALL M,nn	17 10	FD	_	CP n	7	RST 38	1

ED	0 / 8		1 / 9		2 / A		3 / B			4 / C	5 /	D	6 ,	/ E	7 /	F
0-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
0+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
1-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
1+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
2-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
2+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
3-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
3+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
4-	IN B,(C) 12	:	OUT (C),B 1	L2	SBC HL,BC	15	LD (nn),BC	20	NEG	8	RETN	14	IM 0	8	LD I,A	9
4+	IN C,(C) 12	:	OUT (C),C 1	L2	ADC HL,BC	15	LD BC,(nn)	20	NEG		RETI	14	IM 0		LD R,A	9
5-	IN D,(C) 12				SBC HL,DE		LD (nn),DE	20	NEG		RETN		IM 1	8	LD A,I	9
5+	IN E,(C) 12				ADC HL,DE		LD DE,(nn)	20	NEG		RETI		IM 2	8	LD A,R	9
6-	IN H,(C) 12				SBC HL,HL		LD (nn),HL	20	NEG		RETN		IM 0		RRD	18
6+	IN L,(C) 12				ADC HL,HL		LD HL,(nn)	20	NEG		RETI		IM 0		RLD	18
7-	IN (C) 12				SBC HL,SP		LD (nn),SP	20	NEG		RETN		IM 1		NOP	
7+	IN A,(C) 12	:		L2	ADC HL,SP	15	LD SP,(nn)	20	NEG		RETI		IM 2		NOP	
8-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
8+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
9-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
9+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
A-	LDI 16				INI		OUTI	16	NOP		NOP		NOP		NOP	
A+	LDD 16				IND		OUTD	16	NOP		NOP		NOP		NOP	
В-				21 16		21 16		21 16			NOP		NOP		NOP	
B+		. 16		21 16		21 16		21 16			NOP		NOP		NOP	
C-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
C+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
D-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
D+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
E-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
E+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
F-	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	
F+	NOP		NOP		NOP		NOP		NOP		NOP		NOP		NOP	

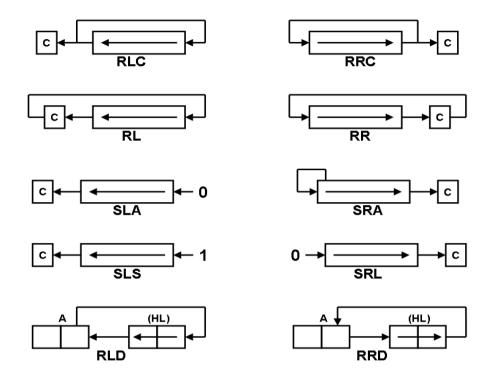
CB	0 / 8		1 / 9		2 / A		3 / B	3 / B			5 / D		6 / E		7 / F	
0-	RLC B	8	RLC C	8	RLC D	8	RLC E 8		RLC H	8	RLC L	8	RLC (HL) 15	R	LC A	8
0+	RRC B	8	RRC C	8	RRC D	8	RRC E 8		RRC H	8	RRC L	8	RRC (HL) 15	R	RC A	8
1-	RL B	8	RL C	8	RL D	8	RL E 8		RL H	8	RL L	8	RL (HL) 15	R	L A	8
1+	RR B	8	RR C	8	RR D	8	RR E 8		RR H	8	RR L	8	RR (HL) 15	R	R A	8
2-	SLA B	8	SLA C	8	SLA D	8	SLA E 8		SLA H	8	SLA L	8	SLA (HL) 15	S	LA A	8
2+	SRA B	8	SRA C	8	SRA D	8	SRA E 8		SRA H	8	SRA L	8	SRA (HL) 15	S	RA A	8
3-	SLS B	8	SLS C	8	SLS D	8	SLS E 8		SLS H	8	SLS L	8	SLS (HL) 15	S	LS A	8
3+	SRL B	8	SRL C	8	SRL D	8	SRL E 8		SRL H	8	SRL L	8	SRL (HL) 15	S	RL A	8
4-	BIT 0,B	8	BIT 0,C	8	BIT 0,D	8	BIT 0,E 8		BIT 0,H	8	BIT 0,L	8	BIT 0,(HL) 12	В	IT 0,A	8
4+	BIT 1,B	8	BIT 1,C	8	BIT 1,D	8	BIT 1,E 8		BIT 1,H	8	BIT 1,L	8	BIT 1,(HL) 12	В	IT 1,A	8
5-	BIT 2,B	8	BIT 2,C	8	BIT 2,D	8	BIT 2,E 8		BIT 2,H	8	BIT 2,L	8	BIT 2,(HL) 12	В	IT 2,A	8
5+	BIT 3,B	8	BIT 3,C	8	BIT 3,D	8	BIT 3,E 8		BIT 3,H	8	BIT 3,L	8	BIT 3,(HL) 12	В	IT 3,A	8
6-	BIT 4,B	8	BIT 4,C	8	BIT 4,D	8	BIT 4,E 8		BIT 4,H	8	BIT 4,L	8	BIT 4,(HL) 12	В	IT 4,A	8
6+	BIT 5,B	8	BIT 5,C	8	BIT 5,D	8	BIT 5,E 8		BIT 5,H	8	BIT 5,L	8	BIT 5,(HL) 12	В	IT 5,A	8
7-	BIT 6,B	8	BIT 6,C	8	BIT 6,D	8	BIT 6,E 8		BIT 6,H	8	BIT 6,L	8	BIT 6,(HL) 12	В	IT 6,A	8
7+	BIT 7,B	8	BIT 7,C	8	BIT 7,D	8	BIT 7,E 8		BIT 7,H	8	BIT 7,L	8	BIT 7,(HL) 12	В	IT 7,A	8
8-	RES 0,B	8	RES 0,C	8	RES 0,D	8	RES 0,E 8		RES 0,H	8	RES 0,L	8	RES 0,(HL) 15	R	ES 0,A	8
8+	RES 1,B	8	RES 1,C	8	RES 1,D	8	RES 1,E 8		RES 1,H	8	RES 1,L	8	RES 1,(HL) 15	R	ES 1,A	8
9-	RES 2,B	8	RES 2,C	8	RES 2,D	8	RES 2,E 8		RES 2,H	8	RES 2,L	8	RES 2,(HL) 15	R	ES 2,A	8
9+	RES 3,B	8	RES 3,C	8	RES 3,D	8	RES 3,E 8		RES 3,H	8	RES 3,L	8	RES 3,(HL) 15	R	ES 3,A	8
A-	RES 4,B	8	RES 4,C	8	RES 4,D	8	RES 4,E 8		RES 4,H	8	RES 4,L	8	RES 4,(HL) 15	R	ES 4,A	8
A+	RES 5,B	8	RES 5,C	8	RES 5,D	8	RES 5,E 8		RES 5,H	8	RES 5,L	8	RES 5,(HL) 15	R	ES 5,A	8
B-	RES 6,B	8	RES 6,C	8	RES 6,D	8	RES 6,E 8		RES 6,H	8	RES 6,L	8	RES 6,(HL) 15	R	ES 6,A	8
B+	RES 7,B	8	RES 7,C	8	RES 7,D	8	RES 7,E 8		RES 7,H	8	RES 7,L	8	RES 7,(HL) 15	R	ES 7,A	8
C-	SET 0,B	8	SET 0,C	8	SET 0,D	8	SET 0,E 8		SET 0,H	8	SET 0,L	8	SET 0,(HL) 15	S	ET 0,A	8
C+	SET 1,B	8	SET 1,C	8	SET 1,D	8	SET 1,E 8		SET 1,H	8	SET 1,L	8	SET 1,(HL) 15	S	ET 1,A	8
D-	SET 2,B	8	SET 2,C	8	SET 2,D	8	SET 2,E 8		SET 2,H	8	SET 2,L	8	SET 2,(HL) 15	S	ET 2,A	8
D+	SET 3,B	8	SET 3,C	8	SET 3,D	8	SET 3,E 8		SET 3,H	8	SET 3,L	8	SET 3,(HL) 15	S	ET 3,A	8
E-	SET 4,B	8	SET 4,C	8	SET 4,D	8	SET 4,E 8		SET 4,H	8	SET 4,L	8	SET 4,(HL) 15	S	ET 4,A	8
E+	SET 5,B	8	SET 5,C	8	SET 5,D	8	SET 5,E 8		SET 5,H	8	SET 5,L	8	SET 5,(HL) 15	S	ET 5,A	8
F-	SET 6,B	8	SET 6,C	8	SET 6,D	8	SET 6,E 8		SET 6,H	8	SET 6,L	8	SET 6,(HL) 15	S	ET 6,A	8
F+	SET 7,B	8	SET 7,C	8	SET 7,D	8	SET 7,E 8		SET 7,H	8	SET 7,L	8	SET 7,(HL) 15	S	ET 7,A	8

DD	0 / 8		1 / 9		2 / A		3 / B		4 / C		5 / D		6 / E		7 / F	
0-	NOP		LD BC,nn	14	LD (BC),A		INC BC	10	INC B	8	DEC B	8	LD B,n	11	RLCA	8
0+	EX AF, AF'		ADD IX,BC	15	LD A,(BC)		DEC BC	10	INC C	8	DEC C	8	LD C,n	11	RRCA	8
1-	DJNZ d		LD DE, nn	14	LD (DE),A		INC DE	10	INC D	8	DEC D	8	LD D,n	11	RLA	8
1+	JR d		ADD IX,DE	15	LD A,(DE)		DEC DE	10	INC E	8	DEC E	8	LD E,n	11	RRA	8
2-	JR NZ,d		LD IX,nn	14	LD (nn),IX	20	INC IX	10	INC IXH	8	DEC IXH	8	LD IXH,n	11	DAA	8
2+	JR Z,d		ADD IX,IX	15	LD IX,(nn)	20	DEC IX	10	INC IXL	8	DEC IXL	8	LD IXL,n	11	CPL	8
3-	JR NC,d		LD SP,nn	14	LD (nn),A		INC SP	10	INC (IX+d)	23	DEC (IX+d)	23	LD (IX+d),n	19	SCF	8
3+	JR C,d		ADD IX,SP	15	LD A,(nn)		DEC SP	10	INC A	8	DEC A	8	LD A,n	11	CCF	8
4-	LD B,B	8	LD B,C	8	LD B,D	8	LD B,E	8	LD B,IXH	8	LD B,IXL	8	LD B,(IX+d)	19	LD B,A	8
4+	LD C,B	8	LD C,C	8	LD C,D	8	LD C,E	8	LD C, IXH	8	LD C, IXL	8	LD C,(IX+d)	19	LD C,A	8
5-	LD D,B	8	LD D,C	8	LD D,D	8	LD D,E	8	LD D,IXH	8	LD D,IXL	8	LD D,(IX+d)	19	LD D,A	8
5+	LD E,B	8	LD E,C	8	LD E,D	8	LD E,E	8	LD E, IXH	8	LD E,IXL	8	LD E,(IX+d)	19	LD E,A	8
6-	LD IXH,B	8	LD IXH,C	8	LD IXH,D	8	LD IXH,E	8	LD IXH, IXH	8	LD IXH,IXL	8	LD H,(IX+d)	19	LD IXH,A	8
6+	LD IXL,B	8	LD IXL,C	8	LD IXL,D	8	LD IXL,E	8	LD IXL, IXH	8	LD IXL,IXL	8	LD L,(IX+d)	19	LD IXL,A	8
7-	LD (IX+d),B	19	LD (IX+d),C	19	LD (IX+d),D	19	LD (IX+d),E	19	LD (IX+d),H	19	LD (IX+d),L	19	HALT		LD (IX+d),A	19
7+	LD A,B	8	LD A,C	8	LD A,D	8	LD A,E	8	LD A,IXH	8	LD A,IXL	8	LD A,(IX+d)	19	LD A,A	8
8-	ADD A,B	8	ADD A,C	8	ADD A,D	8	ADD A,E	8	ADD A,IXH	8	ADD A,IXL	8	ADD A,(IX+d)	19	ADD A,A	8
8+	ADC A,B	8	ADC A,C	8	ADC A,D	8	ADC A,E	8	ADC A, IXH	8	ADC A,IXL	8	ADC A,(IX+d)	19	ADC A,A	8
9-	SUB B	8	SUB C	8	SUB D	8	SUB E	8	SUB IXH	8	SUB IXL	8	SUB (IX+d)	19	SUB A	8
9+	SBC A,B	8	SBC A,C	8	SBC A,D	8	SBC A,E	8	SBC A, IXH	8	SBC A,IXL	8	SBC A,(IX+d)	19	SBC A,A	8
A-	AND B	8	AND C	8	AND D	8	AND E	8	AND IXH	8	AND IXL	8	AND (IX+d)	19	AND A	8
A+	XOR B	8	XOR C	8	XOR D	8	XOR E	8	XOR IXH	8	XOR IXL	8	XOR (IX+d)	19	XOR A	8
B-	OR B	8	OR C	8	OR D	8	OR E	8	OR IXH	8	OR IXL	8	OR (IX+d)	19	OR A	8
B+	CP B	8	CP C	8	CP D	8	CP E	8	CP IXH	8	CP IXL	8	CP (IX+d)	19	CP A	8
C-	RET NZ		POP BC	14	JP NZ,nn		JP nn		CALL NZ,nn		PUSH BC	15	ADD A,n		RST 00	
C+	RET Z		RET	14	JP Z,nn		CB		CALL Z,nn		CALL nn		ADC A,n		RST 08	
D-	RET NC		POP DE	14	JP NC,nn		OUT (n),A		CALL NC, nn		PUSH DE	15	SUB n		RST 10	
D+	RET C		EXX	8	JP C,nn		IN A,(n)		CALL C,nn		DD		SBC A,n		RST 18	
E-	RET PO		POP IX	14	JP PO,nn		EX (SP),IX	23	CALL PO,nn		PUSH IX	15	AND n		RST 20	
E+	RET PE		JP (IX)	8	JP PE,nn		EX DE, HL		CALL PE, nn		ED		XOR n		RST 28	
F-	RET P		POP AF	14	JP P,nn		DI		CALL P,nn		PUSH AF	15	OR n		RST 30	
F+	RET M		LD SP,IX	10	JP M,nn		EI		CALL M,nn		FD		CP n		RST 38	

FD	0 / 8		1 / 9		2 / A		3 / B		4 / C		5 / D		6 / E		7 / F	
0-	NOP		LD BC,nn	14	LD (BC),A		INC BC	10	INC B	8	DEC B	8	LD B,n	11	RLCA	8
0+	EX AF, AF'		ADD IY,BC	15	LD A,(BC)		DEC BC	10	INC C	8	DEC C	8	LD C,n	11	RRCA	8
1-	DJNZ d		LD DE, nn	14	LD (DE),A		INC DE	10	INC D	8	DEC D	8	LD D,n	11	RLA	8
1+	JR d		ADD IY,DE	15	LD A,(DE)		DEC DE	10	INC E	8	DEC E	8	LD E,n	11	RRA	8
2-	JR NZ,d		LD IY,nn	14	LD (nn), IY	20	INC IY	10	INC IYH	8	DEC IYH	8	LD IYH,n	11	DAA	8
2+	JR Z,d		ADD IY,IY	15	LD IY,(nn)	20	DEC IY	10	INC IYL	8	DEC IYL	8	LD IYL,n	11	CPL	8
3-	JR NC,d		LD SP,nn	14	LD (nn),A		INC SP	10	INC (IY+d)	23	DEC (IY+d)	23	LD (IY+d),n	19	SCF	8
3+	JR C,d		ADD IY,SP	15	LD A,(nn)		DEC SP	10	INC A	8	DEC A	8	LD A,n	11	CCF	8
4-	LD B,B	8	LD B,C	8	LD B,D	8	LD B,E	8	LD B, IYH	8	LD B, IYL	8	LD B,(IY+d)	19	LD B,A	8
4+	LD C,B	8	LD C,C	8	LD C,D	8	LD C,E	8	LD C, IYH	8	LD C, IYL	8	LD C,(IY+d)	19	LD C,A	8
5-	LD D,B	8	LD D,C	8	LD D,D	8	LD D,E	8	LD D, IYH	8	LD D, IYL	8	LD D,(IY+d)	19	LD D,A	8
5+	LD E,B	8	LD E,C	8	LD E,D	8	LD E,E	8	LD E, IYH	8	LD E, IYL	8	LD E,(IY+d)	19	LD E,A	8
6-	LD IYH,B	8	LD IYH,C	8	LD IYH,D	8	LD IYH,E	8	LD IYH,IYH	8	LD IYH,IYL	8	LD H,(IY+d)	19	LD IYH,A	8
6+	LD IYL,B	8	LD IYL,C	8	LD IYL,D	8	LD IYL,E	8	LD IYL, IYH	8	LD IYL,IYL	8	LD L,(IY+d)	19	LD IYL,A	8
7-	LD (IY+d),B	19	LD (IY+d),C	19	LD (IY+d),D	19	LD (IY+d),E	19	LD (IY+d),H	19	LD (IY+d),L	19	HALT		LD (IY+d),A	19
7+	LD A,B	8	LD A,C	8	LD A,D	8	LD A,E	8	LD A, IYH	8	LD A, IYL	8	LD A,(IY+d)	19	LD A,A	8
8-	ADD A,B	8	ADD A,C	8	ADD A,D	8	ADD A,E	8	ADD A, IYH	8	ADD A, IYL	8	ADD A,(IY+d)	19	ADD A,A	8
8+	ADC A,B	8	ADC A,C	8	ADC A,D	8	ADC A,E	8	ADC A, IYH	8	ADC A, IYL	8	ADC A,(IY+d)	19	ADC A,A	8
9-	SUB B	8	SUB C	8	SUB D	8	SUB E	8	SUB IYH	8	SUB IYL	8	SUB (IY+d)	19	SUB A	8
9+	SBC A,B	8	SBC A,C	8	SBC A,D	8	SBC A,E	8	SBC A, IYH	8	SBC A, IYL	8	SBC A,(IY+d)	19	SBC A,A	8
A-	AND B	8	AND C	8	AND D	8	AND E	8	AND IYH	8	AND IYL	8	AND (IY+d)	19	AND A	8
A+	XOR B	8	XOR C	8	XOR D	8	XOR E	8	XOR IYH	8	XOR IYL	8	XOR (IY+d)	19	XOR A	8
B-	OR B	8	OR C	8	OR D	8	OR E	8	OR IYH	8	OR IYL	8	OR (IY+d)	19	OR A	8
B+	CP B	8	CP C	8	CP D	8	CP E	8	CP IYH	8	CP IYL	8	CP (IY+d)	19	CP A	8
C-	RET NZ		POP BC	14	JP NZ,nn		JP nn		CALL NZ,nn		PUSH BC	15	ADD A,n		RST 00	
C+	RET Z		RET	14	JP Z,nn		CB		CALL Z,nn		CALL nn		ADC A,n		RST 08	
D-	RET NC		POP DE	14	JP NC,nn		OUT (n),A		CALL NC, nn		PUSH DE	15	SUB n		RST 10	
D+	RET C		EXX	8	JP C,nn		IN A,(n)		CALL C,nn		DD		SBC A,n		RST 18	
E-	RET PO		POP IY	14	JP PO,nn		EX (SP),IY	23	CALL PO,nn		PUSH IY	15	AND n		RST 20	
E+	RET PE		JP (IY)	8	JP PE,nn		EX DE, HL		CALL PE, nn		ED		XOR n		RST 28	
F-	RET P		POP AF	14	JP P,nn		DI		CALL P,nn		PUSH AF	15	OR n		RST 30	
F+	RET M		LD SP, IY	10	JP M,nn		EI		CALL M,nn		FD		CP n		RST 38	

DDCB	0 / 8	1 / 9	2 / A	3 / B	4 / C	5 / D	6 / E	7 / F
0-	RLC (IX+d)->B 23	RLC (IX+d)->C 23	RLC (IX+d)->D 23	RLC (IX+d)->E 23	RLC (IX+d)->H 23	RLC (IX+d)->L 23	RLC (IX+d) 23	RLC (IX+d)->A 23
0+	RRC (IX+d)->B 23	RRC (IX+d)->C 23	RRC (IX+d)->D 23	RRC (IX+d)->E 23	RRC (IX+d)->H 23	RRC (IX+d)->L 23	RRC (IX+d) 23	RRC (IX+d)->A 23
1-	RL (IX+d)->B 23	RL (IX+d)->C 23	RL (IX+d)->D 23	RL (IX+d)->E 23	RL (IX+d)->H 23	RL (IX+d)->L 23	RL (IX+d) 23	RL (IX+d)->A 23
1+	RR (IX+d)->B 23	RR (IX+d)->C 23	RR (IX+d)->D 23	RR (IX+d)->E 23	RR (IX+d)->H 23	RR (IX+d)->L 23	RR (IX+d) 23	RR (IX+d)->A 23
2-	SLA (IX+d)->B 23	SLA (IX+d)->C 23	SLA (IX+d)->D 23	SLA (IX+d)->E 23	SLA (IX+d)->H 23	SLA (IX+d)->L 23	SLA (IX+d) 23	SLA (IX+d)->A 23
2+	SRA (IX+d)->B 23	SRA (IX+d)->C 23	SRA (IX+d)->D 23	SRA (IX+d)->E 23	SRA (IX+d)->H 23	SRA (IX+d)->L 23	SRA (IX+d) 23	SRA (IX+d)->A 23
3-	SLS (IX+d)->B 23	SLS (IX+d)->C 23	SLS (IX+d)->D 23	SLS (IX+d)->E 23	SLS (IX+d)->H 23	SLS (IX+d)->L 23	SLS (IX+d) 23	SLS (IX+d)->A 23
3+	SRL (IX+d)->B 23	SRL (IX+d)->C 23	SRL (IX+d)->D 23	SRL (IX+d)->E 23	SRL (IX+d)->H 23	SRL (IX+d)->L 23	SRL (IX+d) 23	SRL (IX+d)->A 23
4-	BIT 0,(IX+d) 20	BIT 0,(IX+d) 20	BIT 0,(IX+d) 20					
4+	BIT 1,(IX+d) 20	BIT 1,(IX+d) 20	BIT 1,(IX+d) 20					
5-	BIT 2,(IX+d) 20	BIT 2,(IX+d) 20	BIT 2,(IX+d) 20					
5+	BIT 3,(IX+d) 20	BIT 3,(IX+d) 20	BIT 3,(IX+d) 20					
6-	BIT 4,(IX+d) 20	BIT 4,(IX+d) 20	BIT 4,(IX+d) 20					
6+	BIT 5,(IX+d) 20	BIT 5,(IX+d) 20	BIT 5,(IX+d) 20					
7-	BIT 6,(IX+d) 20	BIT 6,(IX+d) 20	BIT 6,(IX+d) 20					
7+	BIT 7,(IX+d) 20	77 7	BIT 7,(IX+d) 20	BIT 7,(IX+d) 20				
8-	RES 0,(IX+d)->B 23	RES 0,(IX+d)->C 23	RES 0,(IX+d)->D 23	RES 0,(IX+d)->E 23	RES 0,(IX+d)->H 23	RES 0,(IX+d)->L 23	RES 0,(IX+d) 23	RES 0,(IX+d)->A 23
8+	RES 1,(IX+d)->B 23	RES 1,(IX+d)->C 23	RES 1,(IX+d)->D 23	RES 1,(IX+d)->E 23	RES 1,(IX+d)->H 23	RES 1,(IX+d)->L 23	RES 1,(IX+d) 23	RES 1,(IX+d)->A 23
9-	-	RES 2,(IX+d)->C 23	RES 2,(IX+d)->D 23	RES 2,(IX+d)->E 23	RES 2,(IX+d)->H 23	RES 2,(IX+d)->L 23	RES 2,(IX+d) 23	RES 2,(IX+d)->A 23
9+	RES 3,(IX+d)->B 23	RES 3,(IX+d)->C 23	RES 3,(IX+d)->D 23	RES 3,(IX+d)->E 23	RES 3,(IX+d)->H 23	RES 3,(IX+d)->L 23	RES 3,(IX+d) 23	RES 3,(IX+d)->A 23
A-		RES 4,(IX+d)->C 23	RES 4,(IX+d)->D 23	RES 4,(IX+d)->E 23		RES 4,(IX+d)->L 23	RES 4,(IX+d) 23	RES 4,(IX+d)->A 23
A+	RES 5,(IX+d)->B 23	RES 5,(IX+d)->C 23	RES 5,(IX+d)->D 23	RES 5,(IX+d)->E 23	RES 5,(IX+d)->H 23	RES 5,(IX+d)->L 23	RES 5,(IX+d) 23	RES 5,(IX+d)->A 23
В-		RES 6,(IX+d)->C 23	RES 6,(IX+d)->D 23	RES 6,(IX+d)->E 23		RES 6,(IX+d)->L 23	RES 6,(IX+d) 23	RES 6,(IX+d)->A 23
B+	RES 7,(IX+d)->B 23	RES 7,(IX+d)->C 23	RES 7,(IX+d)->D 23	RES 7,(IX+d)->E 23		RES 7,(IX+d)->L 23	RES 7,(IX+d) 23	RES 7,(IX+d)->A 23
C-	SET 0,(IX+d)->B 23	SET 0,(IX+d)->C 23	SET 0,(IX+d)->D 23	SET 0,(IX+d)->E 23	SET 0,(IX+d)->H 23	SET 0,(IX+d)->L 23	SET 0,(IX+d) 23	SET 0,(IX+d)->A 23
C+	SET 1,(IX+d)->B 23	SET 1,(IX+d)->C 23	SET 1,(IX+d)->D 23	SET 1,(IX+d)->E 23	SET 1,(IX+d)->H 23	SET 1,(IX+d)->L 23	SET 1,(IX+d) 23	SET 1,(IX+d)->A 23
D-	SET 2,(IX+d)->B 23	SET 2,(IX+d)->C 23	SET 2,(IX+d)->D 23	SET 2,(IX+d)->E 23	SET 2,(IX+d)->H 23	SET 2,(IX+d)->L 23	SET 2,(IX+d) 23	SET 2,(IX+d)->A 23
D+	SET 3,(IX+d)->B 23	SET 3,(IX+d)->C 23	SET 3,(IX+d)->D 23	SET 3,(IX+d)->E 23		SET 3,(IX+d)->L 23	SET 3,(IX+d) 23	SET 3,(IX+d)->A 23
E-	SET 4,(IX+d)->B 23	SET 4,(IX+d)->C 23	SET 4,(IX+d)->D 23	SET 4,(IX+d)->E 23	SET 4,(IX+d)->H 23	SET 4,(IX+d)->L 23	SET 4,(IX+d) 23	SET 4,(IX+d)->A 23
E+	SET 5,(IX+d)->B 23	SET 5,(IX+d)->C 23	SET 5,(IX+d)->D 23	SET 5,(IX+d)->E 23	· ·	SET 5,(IX+d)->L 23	SET 5,(IX+d) 23	SET 5,(IX+d)->A 23
F-	SET 6,(IX+d)->B 23	SET 6,(IX+d)->C 23	SET 6,(IX+d)->D 23	SET 6,(IX+d)->E 23	SET 6,(IX+d)->H 23	SET 6,(IX+d)->L 23	SET 6,(IX+d) 23	SET 6,(IX+d)->A 23
F+	SET 7,(IX+d)->B 23	SET 7,(IX+d)->C 23	SET 7,(IX+d)->D 23	SET 7,(IX+d)->E 23	SET 7,(IX+d)->H 23	SET 7,(IX+d)->L 23	SET 7,(IX+d) 23	SET 7,(IX+d)->A 23

FDCB	0 / 8	1 / 9	2 / A	3 / B	4 / C	5 / D	6 / E	7 / F
0-	RLC (IY+d)->B 23	RLC (IY+d)->C 23	RLC (IY+d)->D 23	RLC (IY+d)->E 23	RLC (IY+d)->H 23	RLC (IY+d)->L 23	RLC (IY+d) 23	RLC (IY+d)->A 23
0+	RRC (IY+d)->B 23	RRC (IY+d)->C 23	RRC (IY+d)->D 23	RRC (IY+d)->E 23	RRC (IY+d)->H 23	RRC (IY+d)->L 23	RRC (IY+d) 23	RRC (IY+d)->A 23
1-	RL (IY+d)->B 23	RL (IY+d)->C 23	RL (IY+d)->D 23	RL (IY+d)->E 23	RL (IY+d)->H 23	RL (IY+d)->L 23	RL (IY+d) 23	RL (IY+d)->A 23
1+	RR (IY+d)->B 23	RR (IY+d)->C 23	RR (IY+d)->D 23	RR (IY+d)->E 23	RR (IY+d)->H 23	RR (IY+d)->L 23	RR (IY+d) 23	RR (IY+d)->A 23
2-	SLA (IY+d)->B 23	SLA (IY+d)->C 23	SLA (IY+d)->D 23	SLA (IY+d)->E 23	SLA (IY+d)->H 23	SLA (IY+d)->L 23	SLA (IY+d) 23	SLA (IY+d)->A 23
2+	SRA (IY+d)->B 23	SRA (IY+d)->C 23	SRA (IY+d)->D 23	SRA (IY+d)->E 23	SRA (IY+d)->H 23	SRA (IY+d)->L 23	SRA (IY+d) 23	SRA (IY+d)->A 23
3-	SLS (IY+d)->B 23	SLS (IY+d)->C 23	SLS (IY+d)->D 23	SLS (IY+d)->E 23	SLS (IY+d)->H 23	SLS (IY+d)->L 23	SLS (IY+d) 23	SLS (IY+d)->A 23
	SRL (IY+d)->B 23	SRL (IY+d)->C 23	SRL (IY+d)->D 23	SRL (IY+d)->E 23	SRL (IY+d)->H 23	` '	SRL (IY+d) 23	SRL (IY+d)->A 23
4-	BIT 0,(IY+d) 20		BIT 0,(IY+d) 20	BIT 0,(IY+d) 20				
4+	BIT 1,(IY+d) 20	BIT 1,(IY+d) 20	BIT 1,(IY+d) 20					
5-	BIT 2,(IY+d) 20		BIT 2,(IY+d) 20	BIT 2,(IY+d) 20				
5+	BIT 3,(IY+d) 20	- ' '	BIT 3,(IY+d) 20	BIT 3,(IY+d) 20				
6-	BIT 4,(IY+d) 20	, , , , , , , , , , , , , , , , , , ,	BIT 4,(IY+d) 20	BIT 4,(IY+d) 20				
6+	BIT 5,(IY+d) 20	- ' '	BIT 5,(IY+d) 20	BIT 5,(IY+d) 20				
7-	BIT 6,(IY+d) 20		BIT 6,(IY+d) 20	BIT 6,(IY+d) 20				
7+	BIT 7,(IY+d) 20	, , , , , , , , , , , , , , , , , , ,	BIT 7,(IY+d) 20	BIT 7,(IY+d) 20				
	RES 0,(IY+d)->B 23	RES 0,(IY+d)->C 23	RES 0,(IY+d)->D 23	RES 0,(IY+d)->E 23	RES 0,(IY+d)->H 23	· · · · · · · · · · · · · · · · · · ·	RES 0,(IY+d) 23	RES 0,(IY+d)->A 23
	RES 1,(IY+d)->B 23	RES 1,(IY+d)->C 23	RES 1,(IY+d)->D 23	RES 1,(IY+d)->E 23	RES 1,(IY+d)->H 23	RES 1,(IY+d)->L 23	RES 1,(IY+d) 23	RES 1,(IY+d)->A 23
	RES 2,(IY+d)->B 23	RES 2,(IY+d)->C 23	RES 2,(IY+d)->D 23	RES 2,(IY+d)->E 23	RES 2,(IY+d)->H 23	RES 2,(IY+d)->L 23	RES 2,(IY+d) 23	RES 2,(IY+d)->A 23
	RES 3,(IY+d)->B 23	RES 3,(IY+d)->C 23	RES 3,(IY+d)->D 23	RES 3,(IY+d)->E 23	RES 3,(IY+d)->H 23	- /\ /	RES 3,(IY+d) 23	RES 3,(IY+d)->A 23
	RES 4,(IY+d)->B 23	RES 4,(IY+d)->C 23	RES 4,(IY+d)->D 23	RES 4,(IY+d)->E 23	RES 4,(IY+d)->H 23	/\ /	RES 4,(IY+d) 23	RES 4,(IY+d)->A 23
	RES 5,(IY+d)->B 23	RES 5,(IY+d)->C 23	RES 5,(IY+d)->D 23	RES 5,(IY+d)->E 23	RES 5,(IY+d)->H 23	RES 5,(IY+d)->L 23	RES 5,(IY+d) 23	RES 5,(IY+d)->A 23
-	RES 6,(IY+d)->B 23	RES 6,(IY+d)->C 23	RES 6,(IY+d)->D 23	RES 6,(IY+d)->E 23	RES 6,(IY+d)->H 23		RES 6,(IY+d) 23	RES 6,(IY+d)->A 23
	RES 7,(IY+d)->B 23	RES 7,(IY+d)->C 23	RES 7,(IY+d)->D 23	RES 7,(IY+d)->E 23	RES 7,(IY+d)->H 23	· · · · · · · · · · · · · · · · · · ·	RES 7,(IY+d) 23	RES 7,(IY+d)->A 23
	SET 0,(IY+d)->B 23	SET 0,(IY+d)->C 23	SET 0,(IY+d)->D 23	SET 0,(IY+d)->E 23	SET 0,(IY+d)->H 23		SET 0,(IY+d) 23	SET 0,(IY+d)->A 23
	SET 1,(IY+d)->B 23	SET 1,(IY+d)->C 23	SET 1,(IY+d)->D 23	SET 1,(IY+d)->E 23	SET 1,(IY+d)->H 23	- ' '	SET 1,(IY+d) 23	SET 1,(IY+d)->A 23
D-	SET 2,(IY+d)->B 23	SET 2,(IY+d)->C 23	SET 2,(IY+d)->D 23	SET 2,(IY+d)->E 23	SET 2,(IY+d)->H 23	SET 2,(IY+d)->L 23	SET 2,(IY+d) 23	SET 2,(IY+d)->A 23
	SET 3,(IY+d)->B 23	SET 3,(IY+d)->C 23	SET 3,(IY+d)->D 23	SET 3,(IY+d)->E 23	SET 3,(IY+d)->H 23	SET 3,(IY+d)->L 23	SET 3,(IY+d) 23	SET 3,(IY+d)->A 23
	SET 4,(IY+d)->B 23	SET 4,(IY+d)->C 23	SET 4,(IY+d)->D 23	SET 4,(IY+d)->E 23	SET 4,(IY+d)->H 23	SET 4,(IY+d)->L 23	SET 4,(IY+d) 23	SET 4,(IY+d)->A 23
	SET 5,(IY+d)->B 23	SET 5,(IY+d)->C 23	SET 5,(IY+d)->D 23	SET 5,(IY+d)->E 23	SET 5,(IY+d)->H 23		SET 5,(IY+d) 23	SET 5,(IY+d)->A 23
	SET 6,(IY+d)->B 23	SET 6,(IY+d)->C 23	SET 6,(IY+d)->D 23	SET 6,(IY+d)->E 23	SET 6,(IY+d)->H 23		SET 6,(IY+d) 23	SET 6,(IY+d)->A 23
F+	SET 7,(IY+d)->B 23	SET 7,(IY+d)->C 23	SET 7,(IY+d)->D 23	SET 7,(IY+d)->E 23	SET 7,(IY+d)->H 23	SET 7,(IY+d)->L 23	SET 7,(IY+d) 23	SET 7,(IY+d)->A 23



# Z80 INSTRUCTIONS

Time (in T states) indicated after each instruction.

In conditional jumps, first number indicates time if jump is taken.

# COLORS:

- \* documented instruction
- \* undocumented instruction
- \* safe mirrored instruction (fully available but redundant)
- \* unsafe mirrored instruction (may not work in all versions)

### NOTATION:

d: 8-bit relative address

n: 8-bit constant

nn: 16-bit constant/address

### REFERENCES:

"The Complete Z80 Instruction Set" by Patai Gergely

http://www.ticalc.org/pub/text/z80/z80.zip

"The Complete Z80 OP-Code Reference" by Devin Gardner

http://www.ticalc.org/pub/text/z80/z80\_reference.txt

"Full Z80 Opcode List Including Undocumented Opcodes" by J.G.Harston <a href="http://mdfs.net/Docs/Comp/Z80/OpList">http://mdfs.net/Docs/Comp/Z80/OpList</a>

"Z80 Instruction Set Summary - version 2000c" by Shiar

http://www.ticalc.org/pub/text/z80/z80.txt

"Z80 Undocumented Features (in software behaviour)" by Sean Young

http://www.z80.info/z80undoc3.txt

"Zilog Z80 CPU Specifications" by Sean Young http://www.cepece.info/amstrad/docs/z80.pdf

# ABOUT:

Version: 1.4 (February 2012)

Address: <a href="http://www.ime.usp.br/~einar/z80table.zip">http://www.ime.usp.br/~einar/z80table.zip</a>

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