

## gbops, an accurate opcode table for the Game Boy

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- <#> Errata from prior versions

The search bar is experimental, see help for syntax, it might fail unexpectedly.

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Cycle mode:

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If you find any bugs or something that seems out of place file an [issue](#).

Unprefixed:

--	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00+	NOP 1 4t ----	LD BC,u16 3 12t ----	LD (BC),A 1 8t ----	INC BC 1 8t ----	INC B 1 4t Z0H-	DEC B 1 4t Z1H-	LD B,u8 2 8t ----	RLCA 1 4t 000C	LD (u16),S P 3 20t ----	ADD HL,BC 1 8t -0HC	LD A,(BC) 1 8t ----	DEC BC 1 8t ----	INC C 1 4t Z0H-	DEC C 1 4t Z1H-	LD C,u8 2 8t ----	RRCA 1 4t 000C
10+	STOP 1 4t ----	LD DE,u16 3 12t ----	LD (DE),A 1 8t ----	INC DE 1 8t ----	INC D 1 4t Z0H-	DEC D 1 4t Z1H-	LD D,u8 2 8t ----	RLA 1 4t 000C	JR i8 2 12t ----	ADD HL,DE 1 8t -0HC	LD A,(DE) 1 8t ----	DEC DE 1 8t ----	INC E 1 4t Z0H-	DEC E 1 4t Z1H-	LD E,u8 2 8t ----	RRA 1 4t 000C
20+	JR NZ,i8 2 8t-12t ----	LD HL,u16 3 12t ----	LD (HL+),A 1 8t ----	INC HL 1 8t ----	INC H 1 4t Z0H-	DEC H 1 4t Z1H-	LD H,u8 2 8t ----	DAA 1 4t Z-0C	JR Z,i8 2 8t-12t ----	ADD HL,HL 1 8t -0HC	LD A,(HL+) 1 8t ----	DEC HL 1 8t ----	INC L 1 4t Z0H-	DEC L 1 4t Z1H-	LD L,u8 2 8t ----	CPL 1 4t -11-
30+	JR NC,i8 2 8t-12t ----	LD SP,u16 3 12t ----	LD (HL-),A 1 8t ----	INC SP 1 8t ----	INC (HL) 1 12t Z0H-	DEC (HL) 1 12t Z1H-	LD (HL),u8 2 12t ----	SCF 1 4t -001	JR C,i8 2 8t-12t ----	ADD HL,SP 1 8t -0HC	LD A,(HL-) 1 8t ----	DEC SP 1 8t ----	INC A 1 4t Z0H-	DEC A 1 4t Z1H-	LD A,u8 2 8t ----	CCF 1 4t -00C
40+	LD B,B 1 4t ----	LD B,C 1 4t ----	LD B,D 1 4t ----	LD B,E 1 4t ----	LD B,H 1 4t ----	LD B,L 1 4t ----	LD B,(HL) 1 8t ----	LD B,A 1 4t ----	LD C,B 1 4t ----	LD C,C 1 4t ----	LD C,D 1 4t ----	LD C,E 1 4t ----	LD C,H 1 4t ----	LD C,L 1 4t ----	LD C,(HL) 1 8t ----	LD C,A 1 4t ----

--	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
50+	LD D,B 1 4t ----	LD D,C 1 4t ----	LD D,D 1 4t ----	LD D,E 1 4t ----	LD D,H 1 4t ----	LD D,L 1 4t ----	LD D,(HL) 1 8t ----	LD D,A 1 4t ----	LD E,B 1 4t ----	LD E,C 1 4t ----	LD E,D 1 4t ----	LD E,E 1 4t ----	LD E,H 1 4t ----	LD E,L 1 4t ----	LD E,(HL) 1 8t ----	LD E,A 1 4t ----
60+	LD H,B 1 4t ----	LD H,C 1 4t ----	LD H,D 1 4t ----	LD H,E 1 4t ----	LD H,H 1 4t ----	LD H,L 1 4t ----	LD H,(HL) 1 8t ----	LD H,A 1 4t ----	LD L,B 1 4t ----	LD L,C 1 4t ----	LD L,D 1 4t ----	LD L,E 1 4t ----	LD L,H 1 4t ----	LD L,L 1 4t ----	LD L,(HL) 1 8t ----	LD L,A 1 4t ----
70+	LD (HL),B 1 8t ----	LD (HL),C 1 8t ----	LD (HL),D 1 8t ----	LD (HL),E 1 8t ----	LD (HL),H 1 8t ----	LD (HL),L 1 8t ----	HALT 1 4t ----	LD (HL),A 1 8t ----	LD A,B 1 4t ----	LD A,C 1 4t ----	LD A,D 1 4t ----	LD A,E 1 4t ----	LD A,H 1 4t ----	LD A,L 1 4t ----	LD A,(HL) 1 8t ----	LD A,A 1 4t ----
80+	ADD A,B 1 4t Z0HC	ADD A,C 1 4t Z0HC	ADD A,D 1 4t Z0HC	ADD A,E 1 4t Z0HC	ADD A,H 1 4t Z0HC	ADD A,L 1 4t Z0HC	ADD A,(HL) 1 8t Z0HC	ADD A,A 1 4t Z0HC	ADC A,B 1 4t Z0HC	ADC A,C 1 4t Z0HC	ADC A,D 1 4t Z0HC	ADC A,E 1 4t Z0HC	ADC A,H 1 4t Z0HC	ADC A,L 1 4t Z0HC	ADC A,(HL) 1 8t Z0HC	ADC A,A 1 4t Z0HC
90+	SUB A,B 1 4t Z1HC	SUB A,C 1 4t Z1HC	SUB A,D 1 4t Z1HC	SUB A,E 1 4t Z1HC	SUB A,H 1 4t Z1HC	SUB A,L 1 4t Z1HC	SUB A,(HL) 1 8t Z1HC	SUB A,A 1 4t Z1HC	SBC A,B 1 4t Z1HC	SBC A,C 1 4t Z1HC	SBC A,D 1 4t Z1HC	SBC A,E 1 4t Z1HC	SBC A,H 1 4t Z1HC	SBC A,L 1 4t Z1HC	SBC A,(HL) 1 8t Z1HC	SBC A,A 1 4t Z1HC
A0+	AND A,B 1 4t Z010	AND A,C 1 4t Z010	AND A,D 1 4t Z010	AND A,E 1 4t Z010	AND A,H 1 4t Z010	AND A,L 1 4t Z010	AND A,(HL) 1 8t Z010	AND A,A 1 4t Z010	XOR A,B 1 4t Z000	XOR A,C 1 4t Z000	XOR A,D 1 4t Z000	XOR A,E 1 4t Z000	XOR A,H 1 4t Z000	XOR A,L 1 4t Z000	XOR A,(HL) 1 8t Z000	XOR A,A 1 4t Z000
B0+	OR A,B 1 4t Z000	OR A,C 1 4t Z000	OR A,D 1 4t Z000	OR A,E 1 4t Z000	OR A,H 1 4t Z000	OR A,L 1 4t Z000	OR A,(HL) 1 8t Z000	OR A,A 1 4t Z000	CP A,B 1 4t Z1HC	CP A,C 1 4t Z1HC	CP A,D 1 4t Z1HC	CP A,E 1 4t Z1HC	CP A,H 1 4t Z1HC	CP A,L 1 4t Z1HC	CP A,(HL) 1 8t Z1HC	CP A,A 1 4t Z1HC
C0+	RET NZ 1 8t-20t ----	POP BC 1 12t ----	JP NZ,u16 3 12t-16t ----	JP u16 3 16t ----	CALL NZ,u16 3 12t-24t ----	PUSH BC 1 16t ----	ADD A,u8 2 8t Z0HC	RST 00h 1 16t ----	RET Z 1 8t-20t ----	RET 1 16t ----	JP Z,u16 3 12t-16t ----	PREFIX CB 1 4t ----	CALL Z,u16 3 12t-24t ----	CALL u16 3 24t ----	ADC A,u8 2 8t Z0HC	RST 08h 1 16t ----
D0+	RET NC 1 8t-20t ----	POP DE 1 12t ----	JP NC,u16 3 12t-16t ----		CALL NC,u16 3 12t-24t ----	PUSH DE 1 16t ----	SUB A,u8 2 8t Z1HC	RST 10h 1 16t ----	RET C 1 8t-20t ----	RETI 1 16t ----	JP C,u16 3 12t-16t ----		CALL C,u16 3 12t-24t ----		SBC A,u8 2 8t Z1HC	RST 18h 1 16t ----
E0+	LD (FF00+u 8),A 2 12t ----	POP HL 1 12t ----	LD (FF00+C ) ,A 1 8t ----			PUSH HL 1 16t ----	AND A,u8 2 8t Z010	RST 20h 1 16t ----	ADD SP,i8 2 16t 00HC	JP HL 1 4t ----	LD (u16),A 3 16t ----				XOR A,u8 2 8t Z000	RST 28h 1 16t ----

--	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
<b>F0+</b>	LD A,(FF00 +u8) 2 12t ----	POP AF 1 12t ZNHC	LD A,(FF00 +C) 1 8t ----	DI 1 4t ----		PUSH AF 1 16t ----	OR A,u8 2 8t Z000	RST 30h 1 16t ----	LD HL,SP+i 8 2 12t 00HC	LD SP,HL 1 8t ----	LD A,(u16) 3 16t ----	EI 1 4t ----			CP A,u8 2 8t Z1HC	RST 38h 1 16t ----

## 0xCB Prefixed:

--	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
<b>00+</b>	RLC B 2 8t Z00C	RLC C 2 8t Z00C	RLC D 2 8t Z00C	RLC E 2 8t Z00C	RLC H 2 8t Z00C	RLC L 2 8t Z00C	RLC (HL) 2 16t Z00C	RLC A 2 8t Z00C	RRC B 2 8t Z00C	RRC C 2 8t Z00C	RRC D 2 8t Z00C	RRC E 2 8t Z00C	RRC H 2 8t Z00C	RRC L 2 8t Z00C	RRC (HL) 2 16t Z00C	RRC A 2 8t Z00C
<b>10+</b>	RL B 2 8t Z00C	RL C 2 8t Z00C	RL D 2 8t Z00C	RL E 2 8t Z00C	RL H 2 8t Z00C	RL L 2 8t Z00C	RL (HL) 2 16t Z00C	RL A 2 8t Z00C	RR B 2 8t Z00C	RR C 2 8t Z00C	RR D 2 8t Z00C	RR E 2 8t Z00C	RR H 2 8t Z00C	RR L 2 8t Z00C	RR (HL) 2 16t Z00C	RR A 2 8t Z00C
<b>20+</b>	SLA B 2 8t Z00C	SLA C 2 8t Z00C	SLA D 2 8t Z00C	SLA E 2 8t Z00C	SLA H 2 8t Z00C	SLA L 2 8t Z00C	SLA (HL) 2 16t Z00C	SLA A 2 8t Z00C	SRA B 2 8t Z00C	SRA C 2 8t Z00C	SRA D 2 8t Z00C	SRA E 2 8t Z00C	SRA H 2 8t Z00C	SRA L 2 8t Z00C	SRA (HL) 2 16t Z00C	SRA A 2 8t Z00C
<b>30+</b>	SWAP B 2 8t Z000	SWAP C 2 8t Z000	SWAP D 2 8t Z000	SWAP E 2 8t Z000	SWAP H 2 8t Z000	SWAP L 2 8t Z000	SWAP (HL) 2 16t Z000	SWAP A 2 8t Z000	SRL B 2 8t Z00C	SRL C 2 8t Z00C	SRL D 2 8t Z00C	SRL E 2 8t Z00C	SRL H 2 8t Z00C	SRL L 2 8t Z00C	SRL (HL) 2 16t Z00C	SRL A 2 8t Z00C
<b>40+</b>	BIT 0,B 2 8t Z01-	BIT 0,C 2 8t Z01-	BIT 0,D 2 8t Z01-	BIT 0,E 2 8t Z01-	BIT 0,H 2 8t Z01-	BIT 0,L 2 8t Z01-	BIT 0,(HL) 2 12t Z01-	BIT 0,A 2 8t Z01-	BIT 1,B 2 8t Z01-	BIT 1,C 2 8t Z01-	BIT 1,D 2 8t Z01-	BIT 1,E 2 8t Z01-	BIT 1,H 2 8t Z01-	BIT 1,L 2 8t Z01-	BIT 1,(HL) 2 12t Z01-	BIT 1,A 2 8t Z01-
<b>50+</b>	BIT 2,B 2 8t Z01-	BIT 2,C 2 8t Z01-	BIT 2,D 2 8t Z01-	BIT 2,E 2 8t Z01-	BIT 2,H 2 8t Z01-	BIT 2,L 2 8t Z01-	BIT 2,(HL) 2 12t Z01-	BIT 2,A 2 8t Z01-	BIT 3,B 2 8t Z01-	BIT 3,C 2 8t Z01-	BIT 3,D 2 8t Z01-	BIT 3,E 2 8t Z01-	BIT 3,H 2 8t Z01-	BIT 3,L 2 8t Z01-	BIT 3,(HL) 2 12t Z01-	BIT 3,A 2 8t Z01-
<b>60+</b>	BIT 4,B 2 8t Z01-	BIT 4,C 2 8t Z01-	BIT 4,D 2 8t Z01-	BIT 4,E 2 8t Z01-	BIT 4,H 2 8t Z01-	BIT 4,L 2 8t Z01-	BIT 4,(HL) 2 12t Z01-	BIT 4,A 2 8t Z01-	BIT 5,B 2 8t Z01-	BIT 5,C 2 8t Z01-	BIT 5,D 2 8t Z01-	BIT 5,E 2 8t Z01-	BIT 5,H 2 8t Z01-	BIT 5,L 2 8t Z01-	BIT 5,(HL) 2 12t Z01-	BIT 5,A 2 8t Z01-
<b>70+</b>	BIT 6,B 2 8t Z01-	BIT 6,C 2 8t Z01-	BIT 6,D 2 8t Z01-	BIT 6,E 2 8t Z01-	BIT 6,H 2 8t Z01-	BIT 6,L 2 8t Z01-	BIT 6,(HL) 2 12t Z01-	BIT 6,A 2 8t Z01-	BIT 7,B 2 8t Z01-	BIT 7,C 2 8t Z01-	BIT 7,D 2 8t Z01-	BIT 7,E 2 8t Z01-	BIT 7,H 2 8t Z01-	BIT 7,L 2 8t Z01-	BIT 7,(HL) 2 12t Z01-	BIT 7,A 2 8t Z01-

--	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
<b>80+</b>	RES 0,B 2 8t ----	RES 0,C 2 8t ----	RES 0,D 2 8t ----	RES 0,E 2 8t ----	RES 0,H 2 8t ----	RES 0,L 2 8t ----	RES 0,(HL) 2 16t ----	RES 0,A 2 8t ----	RES 1,B 2 8t ----	RES 1,C 2 8t ----	RES 1,D 2 8t ----	RES 1,E 2 8t ----	RES 1,H 2 8t ----	RES 1,L 2 8t ----	RES 1,(HL) 2 16t ----	RES 1,A 2 8t ----
<b>90+</b>	RES 2,B 2 8t ----	RES 2,C 2 8t ----	RES 2,D 2 8t ----	RES 2,E 2 8t ----	RES 2,H 2 8t ----	RES 2,L 2 8t ----	RES 2,(HL) 2 16t ----	RES 2,A 2 8t ----	RES 3,B 2 8t ----	RES 3,C 2 8t ----	RES 3,D 2 8t ----	RES 3,E 2 8t ----	RES 3,H 2 8t ----	RES 3,L 2 8t ----	RES 3,(HL) 2 16t ----	RES 3,A 2 8t ----
<b>A0+</b>	RES 4,B 2 8t ----	RES 4,C 2 8t ----	RES 4,D 2 8t ----	RES 4,E 2 8t ----	RES 4,H 2 8t ----	RES 4,L 2 8t ----	RES 4,(HL) 2 16t ----	RES 4,A 2 8t ----	RES 5,B 2 8t ----	RES 5,C 2 8t ----	RES 5,D 2 8t ----	RES 5,E 2 8t ----	RES 5,H 2 8t ----	RES 5,L 2 8t ----	RES 5,(HL) 2 16t ----	RES 5,A 2 8t ----
<b>B0+</b>	RES 6,B 2 8t ----	RES 6,C 2 8t ----	RES 6,D 2 8t ----	RES 6,E 2 8t ----	RES 6,H 2 8t ----	RES 6,L 2 8t ----	RES 6,(HL) 2 16t ----	RES 6,A 2 8t ----	RES 7,B 2 8t ----	RES 7,C 2 8t ----	RES 7,D 2 8t ----	RES 7,E 2 8t ----	RES 7,H 2 8t ----	RES 7,L 2 8t ----	RES 7,(HL) 2 16t ----	RES 7,A 2 8t ----
<b>C0+</b>	SET 0,B 2 8t ----	SET 0,C 2 8t ----	SET 0,D 2 8t ----	SET 0,E 2 8t ----	SET 0,H 2 8t ----	SET 0,L 2 8t ----	SET 0,(HL) 2 16t ----	SET 0,A 2 8t ----	SET 1,B 2 8t ----	SET 1,C 2 8t ----	SET 1,D 2 8t ----	SET 1,E 2 8t ----	SET 1,H 2 8t ----	SET 1,L 2 8t ----	SET 1,(HL) 2 16t ----	SET 1,A 2 8t ----
<b>D0+</b>	SET 2,B 2 8t ----	SET 2,C 2 8t ----	SET 2,D 2 8t ----	SET 2,E 2 8t ----	SET 2,H 2 8t ----	SET 2,L 2 8t ----	SET 2,(HL) 2 16t ----	SET 2,A 2 8t ----	SET 3,B 2 8t ----	SET 3,C 2 8t ----	SET 3,D 2 8t ----	SET 3,E 2 8t ----	SET 3,H 2 8t ----	SET 3,L 2 8t ----	SET 3,(HL) 2 16t ----	SET 3,A 2 8t ----
<b>E0+</b>	SET 4,B 2 8t ----	SET 4,C 2 8t ----	SET 4,D 2 8t ----	SET 4,E 2 8t ----	SET 4,H 2 8t ----	SET 4,L 2 8t ----	SET 4,(HL) 2 16t ----	SET 4,A 2 8t ----	SET 5,B 2 8t ----	SET 5,C 2 8t ----	SET 5,D 2 8t ----	SET 5,E 2 8t ----	SET 5,H 2 8t ----	SET 5,L 2 8t ----	SET 5,(HL) 2 16t ----	SET 5,A 2 8t ----
<b>F0+</b>	SET 6,B 2 8t ----	SET 6,C 2 8t ----	SET 6,D 2 8t ----	SET 6,E 2 8t ----	SET 6,H 2 8t ----	SET 6,L 2 8t ----	SET 6,(HL) 2 16t ----	SET 6,A 2 8t ----	SET 7,B 2 8t ----	SET 7,C 2 8t ----	SET 7,D 2 8t ----	SET 7,E 2 8t ----	SET 7,H 2 8t ----	SET 7,L 2 8t ----	SET 7,(HL) 2 16t ----	SET 7,A 2 8t ----