

Registers		Arithmetic				Bitwise			
R0	S	ADD[S]	Rd,Rn,Op2	$Rd \leftarrow Rn + Op2$	[N Z C V]	MVN[S]	Ra,Rb	$Ra \leftarrow \sim Rb$	[N Z C]
R1	S	ADC[S]	Rd,Rn,Op2	$Rd \leftarrow Rn + Op2 + C$	[N Z C V]	AND[S]	Rd,Rn,Op2	$Rd \leftarrow Rn \& Op2$	[N Z C]
R2	S	SUB[S]	Rd,Rn,Op2	$Rd \leftarrow Rn - Op2$	[N Z C V]	ORR[S]	Rd,Rn,Op2	$Rd \leftarrow Rn Op2$	[N Z C]
R3	S	SBC[S]	Rd,Rn,Op2	$Rd \leftarrow Rn - Op2 - C$	[N Z C V]	EOR[S]	Rd,Rn,Op2	$Rd \leftarrow Rn \wedge Op2$	[N Z C]
R4	P	RSB[S]	Rd,Rn,Op2	$Rd \leftarrow Op2 - Rn$	[N Z C V]	BIC[S]	Rd,Rn,Op2	$Rd \leftarrow Rn \& \sim Op2$	[N Z C]
R5	P	MUL[S]	Rd,Rn,Op2	$Rd \leftarrow Rn \times Op2$	[N Z]	Compare & Test			
R6	P	MLA[S]	Rd,Rn,Rm,Ra	$Rd \leftarrow Ra + Rn \times Rm$	[N Z]	CMP	Rn,Op2	$Rn - Op2$	N Z C V
R7	P	MLS[S]	Rd,Rn,Rm,Ra	$Rd \leftarrow Ra - Rn \times Rm$	[N Z]	CMN	Rn,Op2	$Rn + Op2$	N Z C V
R8	P	{S,U}MULL	RdL,RdH,Rn,Rm	$Rd \leftarrow Rn \times Rm$		TST	Rn,Op2	$Rn \& Op2$	N Z C
R9 SB/TR		{S,U}MLAL	RdL,RdH,Rn,Rm	$Rd \leftarrow Rd + Rn \times Rm$		TEQ	Rn,Op2	$Rn \wedge Op2$	N Z C
R10	P	{S,U}MLSL	RdL,RdH,Rn,Rm	$Rd \leftarrow Rd - Rn \times Rm$		Branch			
R11 FP	P	{S,U}DIV	Rd,Rn,Rm	$Rd \leftarrow Rn \div Rm$		B	label	$PC \leftarrow label$	
R12 IP	S	{S,U}XT{B,H}	Ra,Rb	$Ra \leftarrow \text{Extend}(Rb)$		BX	Rm	$PC \leftarrow Rm$	
R13 SP	P	{S,U}SAT	Rd,#n,Rm,Sft	$Rd \leftarrow \text{Sat}(\text{Sft}(Rm))$	Q	BL	label	$LR \leftarrow PC + 4$; PC label	
R14 LR	S	CLZ[S]	Rd,Rn	$Rd \leftarrow \text{CountLeadingZeros}(Rn)$		BLX	Rm	$LR \leftarrow PC + 4$; PC $\leftarrow Rm$	
R15 PC	S	Shift, Rotate, Swap				TBB	Rn,Rm	$PC \leftarrow PC + 4 + [Rn + Rm]$	
xPSR	S	LSL[S]	Rd,Rm,Rs	$Rd \leftarrow Rm \ll Rs$	[N Z C]	TBH	Rn,Rm,LSL #1	$PC \leftarrow PC + 4 + [Rn + 2 \times Rm]$	
CONTROL		LSR[S]	Rd,Rm,Rs	$Rd \leftarrow Rm \gg Rs$	[N Z C]	CBZ	Rn,label	$Rn == 0: PC \leftarrow label$	
Op2 Sft*		ASR[S]	Rd,Rm,Rs	$Rd \leftarrow \text{SgnExt}(Rm \gg Rs)$	[N Z C]	CBNZ	Rn,label	$Rn != 0: PC \leftarrow label$	
#const		ROR[S]	Rd,Rm,Rs	Rotate right	[N Z C]	Data Transfer			
Rm		RRX[S]	Rd,Rm,Rs	$Rd \leftarrow Rm \gg 1$	[N Z C]	ADR	Rd,label	$Rd \leftarrow label$	
ASR #n *		REV	Ra,Rb	$Ra_{B_0B_1B_2B_3} \leftarrow Rb_{B_3B_2B_1B_0}$		MOV[S]	Rd,Op2	$Rd \leftarrow Op2$	[N Z C]
LSL #n *		REV16	Ra,Rb	$Ra_{B_2B_3B_0B_1} \leftarrow Rb_{B_3B_2B_1B_0}$		MOV[S]	Rd,#imm16	$Rd \leftarrow imm16$	[N Z C]
LSR #n *		REVSH	Ra,Rb	$Ra_{B_1B_0B_3B_2} \leftarrow Rb_{B_3B_2B_1B_0}$		MOVT	Rd,#imm16	$Rd \leftarrow Rd imm16 \ll 16$	
ROR #n		Bitfields				{LD,ST}R[H,B,SH,SB]		Rt,Adr	
RRX		BFC	Rd,#b,#w	$Rd \leftarrow Rd \& \sim((2^w - 1) \ll b)$		{LD,ST}RD		Rt,Rt2,Adr	
Adr		BFI	Rd,Rn,#b,#w	$Rd \leftarrow (Rd \& \sim((2^w - 1) \ll b)) (Rn \ll b)$		LDM[IA FD,IB ED,DA FA,DB EA]		Rn[!],{Regs}	
[Rn]		{S,U}BFX	Rd,Rn,#b,#w	$Rd \leftarrow (Rn \gg b) \& (2^w - 1)$		STM[DB FD,DA EA,IB FA,IA EA]		Rn[!],{Regs}	
[Rn, Rm]		Condition Codes <i>S U</i>		Miscellaneous		{PUSH,POP} {Regs}		\Leftrightarrow {ST,LD}MFD SP!,{Regs}	
[Rn,#offs]		EQ NE MI PL	AL	IT[T,E][T,E][T,E]	cond	MRS	Rd,SpecR	$Rd \leftarrow SpecR$	
[Rn,#offs]!		GE LT LE GT VS VC		WFI	Wait for interrupt	MSR	SpecR,Rm	$SpecR \leftarrow Rm$	N Z C V
[Rn],#offs		HS LO LS HI CS CC		NOP	No operation	ARM T32 ISA Reference 2025.10.16			