

# Conjunto de instruções da JVM

Grupo	Instrução	Tipos de Operandos	Tamanho (bytes)	Comentário
Transferência de informação	bipush imm8	i, l, f, d, a	2	push immediate
	sipush imm16		3	push immediate
	Tconst_n		1	push constant 0 or 1
	ldc #cons8		2	push item from constant pool
	ldc_w #cons16		3	push item from constant pool (wide)
	ldc2_w #cons16		3	push long or double from constant pool
	aconst_null		1	push null
	iconst_m1		1	push -1
	pop, pop2, dup, dup2, dup_x1, dup_x2, dup2_x2, swap		1	direct manipulation of the operand stack
	Tload #loc8		i, l, f, d, a	2
Tstore #loc8	i, l, f, d, a	2	store type T to local variable #var	
Tload_<n>	i, l, f, d, a	1	load type T from local variable n (0..3)	
Tstore_<n>	i, l, f, d, a	1	store type T to local variable n (0..3)	
Taload	b, s, i, l, f, d, c, a	1	load array element of type T	
Tastore	b, s, i, l, f, d, c, a	1	store array element of type T	
getfield #cons16		3	fetch field from object	
putfield #cons16		3	store field to object	
getstatic #cons16		3	get static field from class	
putstatic #cons16		3	store value into static field	
Operações aritméticas	Tadd	i, l, f, d		addition
	Tsub	i, l, f, d		subtract
	Tmult	i, l, f, d		multiply
	Tdiv	i, l, f, d		divide
	Trem	i, l, f, d		remainder
	Tinc #loc8 Imm8	i		increment local var. by Imm8
Operações lógicas	Tand	i, l		AND
	Tor	i, l		OR
	Txor	i, l		XOR
	Tneg	i, l, f, d		NEG
Operações de deslocamento de bits	Tshl	i, l		shift left arithmetic
	Tshr	i, l		shift right logical
	Tushr	i, l		shift right logical
Instruções de comparação e salto	ifcond end16	cond = eq   ne	3	branch to PC + end16 if condz is true
	if_icmpcond end16	le   lt   ge   gt	3	branch to PC + end16 if cond is true
	if_acmp< eq   ne > end16		3	branch to PC + end16 if cond is true
	Tcmp	i	1	compare
	Tcmpl, Tcmpg	f, d	1	compare
	ifnull, ifnonnull			
	lf_TcmpOP	i, a	1	
	tableswitch, lookupswitch			
	goto end16		3	branch to PC + end16
	goto_w end32		5	branch to PC + end32
	jsr, jsr_w, ret		3, 5, 1	jump subroutine
	invokestatic #cons16			
	invokevirtual, invokespecial, invokeinterface			
Treturn	i, l, f, d, a	1	return type T from method	
return			return from void method	
Conversão de tipos	i2T	b, s, l, f, d	1	convert integer to type T
	l2T	i, f, d	1	convert long to type T
	f2T	i, l, d	1	convert float to type T
	d2T	i, l, f	1	convert double to type T
Outros	wide		3	gain access to more local variables
	new #cons16		3	create new object
	newarray #type8		2	create new array
	anewarray Imm16		3	creates a new array of reference
	multianewarray			
	arraylength		1	get length of the array
	instanceof		3	check whether a object is instance of
	checkcast		3	check whether a object is of given type
	monitorenter, monitorenter		1	
athrow		1	throw exception	
Reservadas	impdep1		1	
	impdep2		1	
	breakpoint		1	
	quick_XXXX			