

MIPS versus VAX			
Saving registers			
	sort:	addi \$29,\$29, -36	sort: .word ^m<r2,r3,r4,r5,r6,r7>
		sw \$15, 0(\$29)	
		sw \$16, 4(\$29)	
		sw \$17, 8(\$29)	
		sw \$18,12(\$29)	
		sw \$19,16(\$29)	
		sw \$20,20(\$29)	
		sw \$24,24(\$29)	
		sw \$25,28(\$29)	
		sw \$31,32(\$29)	
Procedure body			
Move parameters		move \$18, \$4	movl r7,8(ap)
		move \$20, \$5	movl r5,4(ap)
Outer loop	for1tst:	add \$19, \$0, \$0	clr1 r6
		slt \$8, \$19, \$20	cmpl r6,(r7)
		beq \$8, \$0, exit1	bgeq exit1
Inner loop	for2tst:	addi \$17, \$19, -1	subl3 r4,r6,#1
		slti \$8, \$17, 0	blss exit2
		bne \$8, \$0, exit2	movl r3,(r5)
		muli \$15, \$17, 4	
		add \$16, \$18, \$15	
		lw \$24, 0(\$16)	addl3 r2,r4,#1
		lw \$25, 4(\$16)	cmpl (r3)[r4],(r3)[r2]
		slt \$8, \$25, \$24	bleq exit2
		beq \$8, \$0, exit2	
Pass parameters and call		move \$4, \$18	pushl (r5)
		move \$5, \$17	pushl r4
		jal swap	calls #2,swap
Inner loop		addi \$17, \$17, -1	decl r4
		j for2tst	brb for2tst
Outer loop	exit2:	addi \$19, \$19, 1	incl r6
		j for1tst	brb for1tst
Restoring registers			
	exit1:	lw \$15,0(\$29)	
		lw \$16, 4(\$29)	
		lw \$17, 8(\$29)	
		lw \$18,12(\$29)	
		lw \$19,16(\$29)	
		lw \$20,20(\$29)	
		lw \$24,24(\$29)	
		lw \$25,28(\$29)	
		lw \$31,32(\$29)	
		addi \$29,\$29, 36	
Procedure return			
		jr \$31	exit1: ret

FIGURE E.56 MIPS32 versus VAX assembly version of procedure sort in Figure E.55 on page E-33.