

```

DO 10 I = 1,20
10  TABLE(I) = 2**I

```

(a)

(1)	:=	#1		I	{loop initialization}
(2)	EXP	#2	I	i_1	{calculation of $2^{**}I$ }
(3)	-	I	#1	i_2	{subscript calculation}
(4)	*	i_2	#3	i_3	
(5)	:=	i_1		TABLE[i_3]	{assignment operation}
(6)	+	I	#1	i_4	{end of loop}
(7)	:=	i_4		I	
(8)	JLE	I	#20	(2)	

(b)

(1)	:=	#1		i_1	{initialize temporaries}
(2)	:=	#(-3)		i_3	
(3)	:=	#1		I	{loop initialization}
(4)	*	i_1	#2	i_1	{calculation of $2^{**}I$ }
(5)	+	i_3	#3	i_3	{subscript calculation}
(6)	:=	i_1		TABLE[i_3]	{assignment operation}
(7)	+	I	#1	i_4	{end of loop}
(8)	:=	i_4		I	
(9)	JLE	I	#20	(4)	

(c)

Figure 5.28 Code optimization by reduction in strength of operations.