PROBLEM:	68 , 69 (cost optimal inspection plan)
CLASSIFICATION:	GGR-P1-(1,2)
SOURCE:	Collani [19]
NUMBER OF VARIABLES:	$n = 4$
NUMBER OF CONSTRAINTS:	$m_1 = 0$, $m-m_1 = 2$, $b = 8$

OBJECTIVE FUNCTION:

$$f(x) = \left(a_i n_i - \frac{b_i(\exp(x_1) - 1) - x_3}{\exp(x_1) - 1 + x_4} x_4\right)/x_1 \quad , \quad i=1,2$$

No. 68 : $a_1 = .0001$, $b_1 = 1$, $d_1 = 1$, $n_1 = 24$

No. 69 : $a_2 = .1$, $b_2 = 1000$, $d_2 = 1$, $n_2 = 4$

CONSTRAINTS:

$$x_3 - 2\Phi(-x_2) = 0$$

$$x_4 - \Phi(-x_2 + d_i\sqrt{n_i}) - \Phi(-x_2 - d_i\sqrt{n_i}) = 0$$

$$\Phi(x) = \int_{-\infty}^{x} \exp(-y^2/2)/\sqrt{2\pi} \; dy$$

$$.0001 \le x_1 \le 100 \; , \; 0 \le x_2 \le 100 \; , \; 0 \le x_3 \le 2 \; , \; 0 \le x_4 \le 2$$

START:	x_o	= (1 , 1 , 1 , 1) (not feasible)	
		- for both problems	
	$f(x_o)$	= -.2618407	-631.3525
SOLUTION:	x^*	= (.06785874,3.6461717,.00026617,.8948622)	
		(.02937141,1.1902534,.23394676,.7916678)	
	$f(x^*)$	= -.920425026	-956.71288
	$r(x^*)$	= .54E-7	.44E-10
	$e(x^*)$	= .14E-4	.33E-4
	μ	= 0	0
	$I(x^*)$	= -	-
	u^*_{max}/u^*_{min}	= 13.66/.0777 = 176	44.47/32.81 = 1.3
	$\lambda^*_{max}/\lambda^*_{min}$	= 16.4/.062 = .26E3	.26E5/19.6 = .1E4