

Use of Neave's Normal Tables

Table 2.1a c.d.f. of standard Normal distribution: $\Phi(z) \equiv P(Z \leq z | Z \sim N(0,1))$

		SUBTRACT				ADD										
z	6	1	2	...	5	...	9	z	6	1	2	...	5	...	9	
-1.9	0250				3			1.9	9750					3		

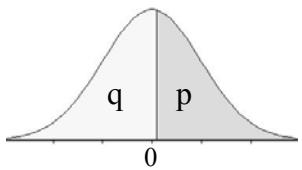
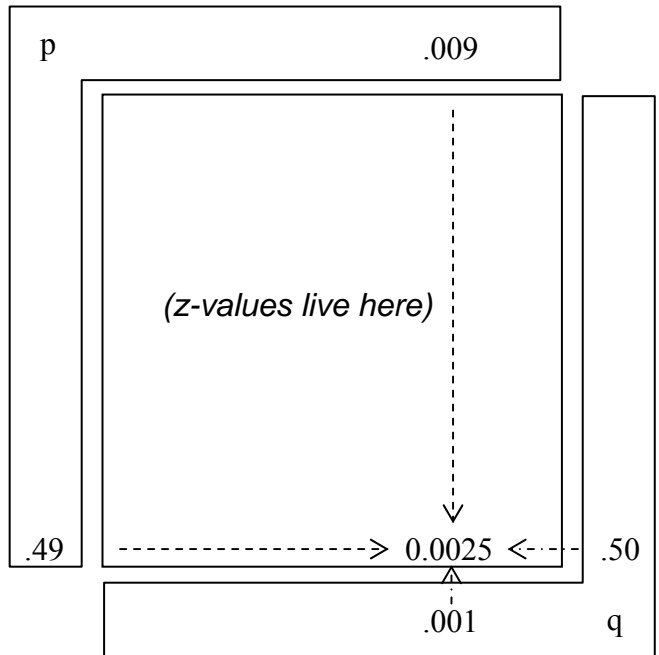
If input -1.965 for z then
 $P(Z \leq -1.965) = 0.0250 - 0.0003$
 $\therefore \Phi(-1.965) = 0.0247$

If input 1.965 for z then
 $P(Z \leq 1.965) = 0.9750 + 0.0003$
 $\therefore \Phi(1.965) = 0.9753$

Table 2.3b
 Inverse Normal
 $z = \Phi^{-1}(q)$

If input a probability p ,
 output is z such that
 $P(Z \geq z) = p$
 or, by symmetry,
 $P(Z \leq -z) = p$

If input .499 for p then
 $P(Z \geq 0.0025) = 0.499$
 or, by symmetry,
 $P(Z \leq -0.0025) = 0.499$
 $\therefore \Phi^{-1}(0.499) = -0.0025$



Input a probability q .
 Output is z such that
 $\Phi(z) \equiv P(Z \leq z) = q$

If input .501 for q then
 $P(Z \leq 0.0025) = 0.501$
 $\therefore \Phi^{-1}(0.501) = +0.0025$