

The Product of Two Factors

- Let $f(\underline{\mathbf{X}}, \underline{\mathbf{Y}})$ & $g(\underline{\mathbf{Y}}, \underline{\mathbf{Z}})$ be two factors with variables $\underline{\mathbf{Y}}$ in common
- The **product** of f and g , denoted $h = f \times g$ (or sometimes just $h = fg$), is defined:

$$h(\underline{\mathbf{X}}, \underline{\mathbf{Y}}, \underline{\mathbf{Z}}) = f(\underline{\mathbf{X}}, \underline{\mathbf{Y}}) \times g(\underline{\mathbf{Y}}, \underline{\mathbf{Z}})$$

f(A,B)		g(B,C)		h(A,B,C)			
ab	0.9	bc	0.7	abc	0.63	ab~c	0.27
a~b	0.1	b~c	0.3	a~bc	0.08	a~b~c	0.02
~ab	0.4	~bc	0.8	~abc	0.28	~ab~c	0.12
~a~b	0.6	~b~c	0.2	~a~bc	0.48	~a~b~c	0.12