	min	max
signed n	$-(2^{(n-1)})$	$(2^{(n-1)})-1$
unsigned n	0	$(2^n)-1$

OP	arg1	arg2	type
+	signed n	signed m	signed max(n,m)+1
	unsigned n	unsigned m	unsigned max(n,m)+1
	signed n	unsigned m	signed max(n,m+1)+1
- (binary)	signed n	signed m	signed max(n,m)+1
	unsigned n	unsigned m	signed max(n,m)+1
	signed n	unsigned m	signed max(n,m+1)+1
	unsigned n	signed m	signed max(n+1,m)+1
- (unary)	signed n		signed (n+1)
	unsigned n		signed (n+1)
*	signed n	signed m	signed (n+m)
	unsigned n	unsigned m	unsigned (n+m)
	signed n	unsigned m	signed (n+m)
/	signed n	signed m	signed n+1
	unsigned n	unsigned m	unsigned n
	signed n	unsigned m	signed
	unsigned m	signed m	signed
abs	signed n		signed n+1

Meaning: range not sufficient
range larger than needed
example
function not available

mathematical = Matlab		std_logic_arith
min	max	
min(arg1)+min(arg2) = -(2^(n-1)) - (2^(m-1))	max(arg1)+max(arg2) = (2^(n-1)) + (2^(m-1))-2	signed max(n, m)
	max(arg1)+max(arg2) = (2^n)+(2^m)-2	unsigned max(n, m)
min(arg1)+min(arg2) = 0		
min(arg1)+min(arg2) = -(2^(n-1))	max(arg1)+max(arg2) = (2^(n-1)) + (2^m)-2	signed max(n, m+1)
min(arg1)-max(arg2) = -(2^(n-1))-(2^(m-1))+1	max(arg1)-min(arg2) = (2^(n-1))-1 + (2^(m-1))	signed max(n, m)
min(arg1)-max(arg2) = -(2^m)+1	max(arg1)-min(arg2) = (2^n)-1	unsigned max(n, m)
min(arg1)-max(arg2) = -(2^(n-1))-(2^m)+1	max(arg1)-min(arg2) = 2^(n-1))-1	signed max(n, m+1)
min(arg1)-max(arg2) = -(2^(m-1))+1	max(arg1)-min(arg2) = (2^n)-1 + (2^(m-1))	signed max(n+1, m)
-max(arg1) = -(2^(n-1))+1	-min(arg1) = (2^(n-1))	signed n
-max(arg1) = -((2^n)-1)	-min(arg1) = 0	
n<=m: min(arg1)*max(arg2) = -(2^(n-1))*((2^(m-1))-1) n>=m: max(arg1)*min(arg2) = -(2^(m-1))*((2^(n-1))-1)	min(arg1)* min(arg2) = (2^(n-1)) * (2^(n-1))	signed n+m
min(arg1)*min(arg2) = 0	max(arg1)*max(arg2) = ((2^n)-1)*((2^m)-1) = 2^(n+m)-2^n-2^m+1	unsigned (n+m)
min(arg1)*max(arg2) = -(2^(n-1)) * ((2^m)-1)	max(arg1)*max(arg2) = (2^(n-1)-1) * ((2^m)-1)	signed n+m+1
-(2^(n-1))+1	2^(n-1)	

numeric_std

signed max(n, m)

unsigned max(n, m)

signed max(n, m)

unsigned max(n, m)

signed n

signed n+m

unsigned (n+m)