

	Matlab	ILNumerics (C#)		Matlab	ILNumerics (C#)		
Array Handling	creation	ones(4,3,2) ones(4,3,2,'single')	ones(4,3,2) ones<float>(4,3,2)	Operators	binary operator (element wise)	./ .* .^ < > >= <= == ~= &	+ - / * pow() < > >= <= == != &
		zeros(4,3,2) zeros(4,3,2,'int32')	zeros(4,3,2) zeros<int>(4,3,2)		allowed sizes, (binary ops.)	array, array: same size array, scalar: always	array, array: same size array, scalar: always <i>matrix, vector: matching</i>
		eye(10,20) eye(10,20,'single')	eye(10,20) eye<float>(10,20)		matrices	A * B * C	multiply(A,B,C)
		horzcat(A,B) vertcat(A,B)	horzcat(A,B) vertcat(A,B)		negation	~A	-A
		rand, randn, repmat, reshape, trace ...	rand, randn, repmat, reshape, trace ...		vector-matrix binary operators	M - repmat(V,1,n) bsxfun(@minus, M,V)	M - V
	size info	size(A,1) length(A)	A.S[0] or A.Size[0] A.Length	type conversion	int8(A), int32(A) ...	toByte(A), toInt32(A) ...	
		numel(A)	A.S.NumberOfElements numel(A)	trigonometric	sin,cos, tan, sinh, cosh, tanh, asin, acos, atan2		
		ndims(A)	A.S.NumberOfDimensions	accumulative	all, any, max, mean, min, prod, sum		
	transpose	A.'	A.T	reduce to scalar	N/A	allall, anyall, maxall, minall, sumall	
	conj. transpose	A'	conj(A.T)	rounding	round, ceil, floor, fix		
Subarrays	single index access	a(5) 1 based, <i>parenthesis</i>	a[4] 0 based, <i>brackets</i>	conversions	cart2pol, pol2cart, flipud, fliplr, ind2sub, sub2ind		
	full dimensions	a(1,:)	a[0,full], a["0;"]	algebraic	conj, abs, diff, exp, imag, real, ccomplex, log, log10, mod, sign, sqrt, pow, sort		
	ranges	a(1:b;2:2:end)	a[r(0,b),r(1,2,end)]	test on null/empty	N/A	isnull, isnulloreempty,	
	relative to end	a(:,end/2)	a[full,end/2]	state	isempty, isequal, isequalwithequalnans, isfinite, isinf, isnan, isneginf, isposinf		
	sequential	a(b)	a[b]	linear algebra	lu, qr, svd, pinv, chol, mrdivide /	lu, qr, svd, pinv, chol, linsolve	
	index lists	a([1,2,1],[2,2,3]) a([1,2,1],[2,2,3])	a[cell(0,1,0),cell(1,1,2)] a["0,1,0;1,1,2"]	fourier transforms	fft, fft2, fftn	fft, fft2, fftn	
	logical indexing	a(b > 5)	a[b > 5]				
	removal	A(2,:,:) = []	A[1,full,full] = null				
	modification	A(...) = ...	A[...] = ...				
	Cells	create by size	cell(3,2)	cell(size(3,2))			
initialize		{10,20,30,40,50}	cell(10,20,30,40,50)				
deep indexing		N/A	A[1,1,0,0,1,2]				