THE UNIVERSITY OF SYDNEY

Zero Robotics Rosetta sheet - Language Refference

1 Language Translation table

Operation	ZR C	ZR Matlab	Python	Java
Variable declaration	`int a = 2;`	`a = 2;`	`a = 2`	`int a = 2;`
Array declaration	`float vec[3] = {1.0,2.0,3.0};`	`vec = [1.0, 2.0, 3.0];`	`vec = [1.0, 2.0, 3.0]`	`float[] vec = {1.0,2.0,3.0};`
Data Indexing	`vec[0] = 4.2;`	`vec(1) = 4.2;`	`vec[1] = 4.2`	`vec[0] = 4.2;`

if statement	`if (a == 3){`
	`  DEBUG(("a is 3"));`
	`}`
	`else if (a<3){`
	`  DEBUG(("a < 3"));`
	`}`
	`else {`
	`  DEBUG(("a > 3"));`
	`}`
		`if a == 3`
		`  api.DEBUG('a is 3')`
		`elseif a<3`
		`  api.DEBUG('a < 3')`
		`else`
		`  api.DEBUG('a > 3')`
		`end`
			`if a == 3:`
			`  print 'a is 3'`
			`elif a < 3:`
			`  print 'a < 3'`
			`else:`
			`  print 'a > 3'`
				`if (a == 3){`
				`  System.out.println("a is 3");`
				`}`
				`else if (a<3){`
				`  System.out.println("a < 3");`
				`}`
				`else {`
				`  System.out.println("a > 3");`
				`}`

for loop	`int i;`
	`for(i = 1; i<10; i=i+2){`
	`  DEBUG(("Print %i", i));`
	`}`
		`for i = 1:2:10`
		`  api.DEBUG("Print %i", i)`
		`end`
			`for i in range(1,10, 2):`
			`  print 'Print ',i`
				`for(int i = 1; i<10; i=i+2){`
				`  System.out.println("Print" + i);`
				`}`

while loop	`while(i % 10<9){`
	`  DEBUG(("%i",i));`
	`  i++;`
	`}`
		`while (mod(i,10)<9)`
		`  api.DEBUG("%i",i)`
		`  i = i+1;`
		`end`
			`while(i % 10<9):`
			`  print i`
			`  i += 1`
				`while(i % 10<9){`
				`  System.out.println(i);`
				`  i++;`
				`}`

Operation	ZR C	ZR Matlab	Python	Java

Function definition	`void foo(float a; float b){`
	`  return (a+b)/2;`
	`}`
		`function out = foo(a, b)`
		`  out = (a+b)/2;`
		`end`
			`def foo(a, b):`
			`  return (a+b)/2`
				`public static float foo(float a, float b) {`
				`  return (a+b)/2;`
				`}`

Case statement	`switch (i){`
	`  case 1:`
	`  DEBUG(("%i",i));`
	`  break;`
	`  case 2:`
	`  DEBUG(("%i",i+2));`
	`  break;`
	`  case 3:`
	`  DEBUG(("%i",i+3));`
	`  break;`
	`  default:`
	`  DEBUG(("nada"));`
	`  break;`
	`}`
		`switch (i)`
		`  case 1`
		`  api.DEBUG('%i', i)`
		`  case 2`
		`  api.DEBUG('%i', i+2)`
		`  case 3`
		`  api.DEBUG('%i', i+3)`
		`  otherwise`
		`  api.DEBUG('nada')`
		`end`
			`# Python doesn't`
			`# offer a switch`
			`# statement as per say`
				`switch (i){`
				`  case 1:`
				`  System.out.println(i);`
				`  break;`
				`  case 2:`
				`  System.out.println(i+2);`
				`  break;`
				`  case 3:`
				`  System.out.println(i+3);`
				`  break;`
				`  default:`
				`  System.out.println("nada");`
				`  break;`
				`}`

Comment	`// This is a comment`
	`/*And a multiline`
	`comment*/`
		`% This is a comment`
		`%{And a multiline`
		`comment%}`
			`# This is a comment`	`// This is a comment`
				`/*And a multiline`
				`comment*/`