**Trigonometric functions**

math.acos(X)

Return the arc cosine of X, in radians. The result is between 0 and pi.

math.asin(X)

Return the arc sine of X, in radians. The result is between -pi/2 and pi/2.

math.atan(X)

Return the arc tangent of X, in radians. The result is between -pi/2 and pi/2.

math.atan2(y, X)

Return atan(y / X), in radians. The result is between -pi and pi. The vector in the plane from the origin to point (X, y) makes this angle with the positive X aXis. The point of atan2() is that the signs of both inputs are known to it, so it can compute the correct quadrant for the angle. For eXample, atan(1) and atan2(1, 1) are both pi/4, but atan2(-1, -1) is -3\*pi/4.

math.cos(X)

Return the cosine of X radians.

math.dist(p, q)

Return the Euclidean distance between two points p and q, each given as a sequence (or iterable) of coordinates. The two points must have the same dimension.

Roughly equivalent to:

sqrt(sum((pX - qX) \*\* 2.0 for pX, qX in zip(p, q)))

.

math.hypot(\*coordinates)

Return the Euclidean norm, sqrt(sum(X\*\*2 for X in coordinates)). This is the length of the vector from the origin to the point given by the coordinates.

For a two dimensional point (X, y), this is equivalent to computing the hypotenuse of a right triangle using the Pythagorean theorem, sqrt(X\*X + y\*y).

math.sin(X)

Return the sine of X radians.

math.tan(X)

Return the tangent of X radians.