var RAD=Math.PI/180;var PI=Math.PI;var TWOPI=Math.PI\*2;var ONEOPI=1/Math.PI;var PIO2=Math.PI/2;var PIO4=Math.PI/4;var PIO8=Math.PI/8;var PIO16=Math.PI/16;var PIO32=Math.PI/32;var Rnd=Math.random;var Sin=Math.sin;var Cos=Math.cos;var Sqrt=Math.sqrt;var Floor=Math.floor;var Atan2=Math.atan2;var Ceil=Math.ceil;var Abs=Math.abs;function randomInt(a,b){return ~~(Rnd()\*(b-a+1)+a)}function weightedRandom(b){var a=Rnd();if(a<0.5){return 1-Math.pow(1-a,b!==undefined?b:2)/2}return 0.5+Math.pow((a-0.5)\*2,b!==undefined?b:2)/2}function calcNormalVector(b,d,f,a,c,e){return new Vector3D((d\*e)-(f\*c),-((e\*b)-(a\*f)),(b\*c)-(d\*a)).norm()}function extend(d,e,c){var b=function(){},a;b.prototype=e.prototype;d.prototype=new b();d.prototype.constructor=d;d.superclass=e.prototype;if(e.prototype.constructor==Object.prototype.constructor){e.prototype.constructor=e}if(c){for(a in c){if(c.hasOwnProperty(a)){d.prototype[a]=c[a]}}}}function isArray(a){return(a.constructor.toString().indexOf("Array")!==-1)}(function(){Vector=function(x,y){this.x=x;this.y=y;return this};Vector.prototype={x:0,y:0,clone:function(){return new Vector(this.x,this.y)},set:function(v){this.x=v.x;this.y=v.y;return this},add:function(v){this.x+=v.x;this.y+=v.y;return this},nadd:function(v){return new Vector(this.x+v.x,this.y+v.y)},sub:function(v){this.x-=v.x;this.y-=v.y;return this},nsub:function(v){return new Vector(this.x-v.x,this.y-v.y)},dot:function(v){return this.x\*v.x+this.y\*v.y},length:function(){return Sqrt(this.x\*this.x+this.y\*this.y)},distance:function(v){var xx=this.x-v.x,yy=this.y-v.y;return Sqrt(xx\*xx+yy\*yy)},theta:function(){return Atan2(this.y,this.x)},thetaTo:function(vec){var v=this.clone().norm(),w=vec.clone().norm();return Math.acos(v.dot(w))},thetaTo2:function(vec){return Atan2(vec.y,vec.x)-Atan2(this.y,this.x)},norm:function(){var len=this.length();this.x/=len;this.y/=len;return this},nnorm:function(){var len=this.length();return new Vector(this.x/len,this.y/len)},rotate:function(a){var ca=Cos(a),sa=Sin(a);with(this){var rx=x\*ca-y\*sa,ry=x\*sa+y\*ca;x=rx;y=ry}return this},nrotate:function(a){var ca=Cos(a),sa=Sin(a);return new Vector(this.x\*ca-this.y\*sa,this.x\*sa+this.y\*ca)},invert:function(){this.x=-this.x;this.y=-this.y;return this},ninvert:function(){return new Vector(-this.x,-this.y)},scale:function(s){this.x\*=s;this.y\*=s;return this},nscale:function(s){return new Vector(this.x\*s,this.y\*s)},scaleTo:function(s){var len=s/this.length();this.x\*=len;this.y\*=len;return this},nscaleTo:function(s){var len=s/this.length();return new Vector(this.x\*len,this.y\*len)}}})();(function(){Vector3D=function(a,c,b){this.x=a;this.y=c;this.z=b;return this};Vector3D.prototype={x:0,y:0,z:0,clone:function(){return new Vector3D(this.x,this.y,this.z)},set:function(a){this.x=a.x;this.y=a.y;this.z=a.z;return this},add:function(a){this.x+=a.x;this.y+=a.y;this.z+=a.z;return this},sub:function(a){this.x-=a.x;this.y-=a.y;this.z-=a.z;return this},dot:function(a){return this.x\*a.x+this.y\*a.y+this.z\*a.z},cross:function(a){return new Vector3D(this.y\*a.z-this.z\*a.y,this.z\*a.x-this.x\*a.z,this.x\*a.y-this.y\*a.x)},length:function(){return Sqrt(this.x\*this.x+this.y\*this.y+this.z\*this.z)},distance:function(b){var c=this.x-b.x,d=this.y-b.y,a=this.z-b.z;return Sqrt(c\*c+d\*d+a\*a)},thetaTo:function(b){var a=this.y\*b.z-this.z\*b.y,d=this.z\*b.x-this.x\*b.z,c=this.x\*b.y-this.y\*b.x;return Atan2(Sqrt(a\*a+d\*d+c\*c),this.dot(b))},thetaTo2:function(a){return Math.acos(this.dot(a)/(Sqrt(this.x\*this.x+this.y\*this.y+this.z\*this.z)\*Sqrt(a.x\*a.x+a.y\*a.y+a.z\*a.z)))},norm:function(){var a=this.length();this.x/=a;this.y/=a;this.z/=a;return this},scale:function(a){this.x\*=a;this.y\*=a;this.z\*=a;return this}}})();(function(){Preloader=function(){this.images=new Array();return this};Preloader.prototype={images:null,callback:null,counter:0,addImage:function b(c,d){var e=this;c.url=d;c.onload=function(){e.counter++;if(e.counter===e.images.length){e.callback.call(e)}};this.images.push(c)},onLoadCallback:function a(e){this.counter=0;this.callback=e;for(var d=0,c=this.images.length;d<c;d++){this.images[d].src=this.images[d].url}}}})();