





	float	radius	=	0.160.	/* outer radius	*/
		thick	=	0.050	/* dist to inner radius	*/
)						
{						
	float r;		/* radiu	s to center of ring	*/	
	point Nf;		/* norw	ard-facing surface norma	I*/	
	point V;		/* vecto	or toward eye	*/	
	color C;		/* new	color	*/	
	color O;		/* new	opacity	*/	
	/* transpar	ency possib	oilities:		*/	
	color clear	= color (0	., 0., 0.);			
	color opac	ue = color (1., 1., 1.);			
	/* colors of the circles:			*/		
	color blue = color "rgb" (0,0,1); color yellow = color "rgb" (1,1,0);					
	color black	k = color "r	gb" (0,0,0			
	color gree	n = color "r	gb" (0,1,0			
	color red	= color "rg	b" (1,0,0)			
	color white	e = color "r	gb" (1,1,1);		
	/* centers	of the circle	s in (s,t) s	bace:	*/	
	point pblu	e = point (0.250, 0.60	0, 0.0);		
	point pyellow = point (0.375, 0.400			00, 0.0);		
	point pbla	ck = point (0.500, 0.60	00, 0.0);		
	point pgre	en = point (0.625, 0.4	00, 0.0);		
	point pred	= point ((0.750, 0.60	0, 0.0);		
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How you exp	oose OpenGL-isms: The	Built-In Functions
	<pre>sin(radians); cos(radians); atan(y, x); pow(x, toTheY); log2(x); sqrt(x); inversesqrt(x); abs(x); fract(x); mod(x, y); min(x, y); max(x, y); clamp(x, min, max); mix(x, y, t); step(edge, x); smoothstep(edge0, edge1, x); length(x); distance(p0, p1); dot(x, y); cross(x, y); normalize(x); ftransform(); faceforward(N, I, Nref); reflect(I, N); noise(x);</pre>	
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Conclusions						
\cdot GPU programming is one of the most exciting things that has ever happened to CG	;					
 It enables application developers to have very tight control over graphics effects without sacrificing display performance 						
 It was really made for game development, but it has significant applications in visualization, imaging, and scientific computing 						
 OSU is one of the few universities that has an organized course in GPU Programm CS 519 - next offered in Spring Quarter 2008. The prerequisite is having taken ar the other CS graphics classes. (We jump right into the graphics pipeline.) 	iing - 1y of					
OSU oregon State University mjb - Febru	iary 26, 2008					