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#Derek Beck
#Assignment 8 - Raytracing
# define the objects
    ObjectBegin 1
    Sphere 1 -1 1 360
    ObjectEnd

    ObjectBegin 2
    Polygon "P" [-5 -5 0 5 -5 0 5 5 0 -5 5 0]
    ObjectEnd

    ObjectBegin 3
    Torus 5 0.7 0 360 360
    ObjectEnd

    ObjectBegin 4
    Torus 4.0 0.1 0 360 360
    ObjectEnd

    ObjectBegin 5
    Sphere 1 -1 1 360
    ObjectEnd

#sets up the scene
Option "shadow" "bias0" [.01]
Option "shadow" "bias1" [.01]

Display "Assignment8.jpg" "file" "rgb"
#Display "Render" "framebuffer" "rgba"

Format 1000 800 1
ShadingRate 1
CropWindow 0 1 0 1
ScreenWindow -1.333 1.333 -1 1
Projection "perspective" "fov" [25]

Translate .1 -.1 2
Rotate -130 1 0 0
Rotate 180 0 0 1
WorldBegin

Attribute "visibility" "trace" [1]
Attribute "trace" "int maxraydepth" [7]

Sides 2

Declare "shadowname" "uniform string"

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Declare "distant.shadow" "uniform string"
Declare "spot.shadow" "uniform string"
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```
TransformBegin
    Rotate 45 0 0 1
    Rotate 150 1 0 0
    Translate 0 0 -5
    LightSource "shadowspot" 1
    "intensity" 1.0
    "lightcolor" [1 1 1]
    "from" [0 0 0]
    "to" [0 0 1]
    "string shadowname" ["raytrace"]
TransformEnd
```

```
TransformBegin
    Rotate 190 0 1 0
    Translate 0 0 -4
    LightSource "shadowspot" 2
    "intensity" 30.0
    "lightcolor" [1 1 1]
    "from" [0 0 0]
    "to" [0 0 1]
    "coneangle" 10.0
    "conedeltaangle" 0.0
    "beamdistribution" 200.0
    "string shadowname" ["raytrace"]
TransformEnd
```

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LightSource "ambientlight" 3 "intensity" .6
Attribute "visibility" "string transmission" ["opaque"]
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Surface "plastic" "Ka" [0.25] "Kd" [0.4] "Ks" [0.5]
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```
Attribute "visibility" "int trace" [1]
Attribute "visibility" "string transmission" ["opaque"]
Attribute "trace" "int maxspeculardepth" [4]
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#botton plane
AttributeBegin
    Color [0 .8 .8]
    Scale 1.0 1.0 1.0
    Translate 0 0 -.22
    ObjectInstance 2
    Surface "shinymetal.sdl" ["raytrace"]
AttributeEnd
```

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#torus
AttributeBegin
    Color [.9 .6 0]
    Rotate 60 1 0 0
    Translate .1 -.3 .1
    Scale .15 .2 .1
    ObjectInstance 3
AttributeEnd

#sphere 1(front left)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .5 .6]
    Translate .5 -.1 -.22
    Scale .23 .23 .23
    ObjectInstance 1
AttributeEnd

#sphere 2(front middle)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .5 .6]
    Translate 0 -.1 -.2
    Scale .23 .23 .23
    ObjectInstance 1
AttributeEnd

#sphere 3(front right)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .5 .55]
    Translate -.4 -.1 -.28
    Scale .2 .2 .2
    ObjectInstance 1
AttributeEnd

#sphere 4 (middle middle)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .3 .5]
    Translate .1 .2 -.2
    Scale .2 .2 .2
    ObjectInstance 1
AttributeEnd

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#sphere 5 (middle left)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .3 .5]
    Translate .5 .2 -.3
    Scale .2 .2 .2
    ObjectInstance 1
AttributeEnd

#sphere 6 (middle right)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .3 .5]
    Translate -.45 .2 -.3
    Scale .3 .3 .3
    ObjectInstance 1
AttributeEnd

#sphere 7 (middle back)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .1 .5]
    Translate .05 .5 -.23
    Scale .18 .18 .18
    ObjectInstance 1
AttributeEnd

#sphere 8 (back right)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .2 .4]
    Translate -.4 .5 -.3
    Scale .2 .2 .2
    ObjectInstance 1
AttributeEnd

#sphere 9 (back left)
AttributeBegin
    Surface "shinymetal"
    "texturename" ["raytrace"]
    Color [0 .1 .4]
    Translate .45 .5 -.3
    Scale .2 .2 .2
    ObjectInstance 1
AttributeEnd

```

WorldEnd