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#Derek Beck
#VIST 470 - Spaceship
#homework 0 derivative j

Display "spaceShip_ex.tiff" "tiff" "rgba"
Projection "perspective" "fov" 25
Format 800 400 1

WorldBegin
    LightSource "ambientlight" 1 "intensity" .2

#creates the backdrop
    TransformBegin
        Translate 0 0 200
Color 0 0 0
    Polygon "P" [100 100 0 100 -100 0 -100 -100 0 -100 100 0]
    TransformEnd

#create the base of the spaceship using a sphere
    LightSource "distantlight" 2 "intensity" 1.5 "from" [0 0 -1]
"to" [0 0 0]
    TransformBegin
        Translate -20 15 200
        Scale 3 1 1
Color 1 1 0
    Surface "metal"
        Sphere 1 -1 1 360
        Scale 4 4 4
Color 1 1 1
    Surface "metal"
        Sphere 1 -1 1 360
    TransformEnd

#Creates the back/top booster of the spaceship
    LightSource "distantlight" 2 "intensity" 1.5 "from" [0 0 -1]
"to" [0 0 0]
    TransformBegin
        Translate -12 18 200
        Scale 1 .6 .5
Color 1 1 0
    Surface "metal"
        Sphere 1 -1 1 360
        Scale 4 4 4
Color 1 1 1
    Surface "metal"
        Sphere 1 -1 1 360
    TransformEnd

#Creates the middle booster of the spaceship

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    LightSource "distantlight" 2 "intensity" 1.5 "from" [0 0 -1]
    "to" [0 0 0]
    TransformBegin
    Translate -12 14 190
    Scale 1 .6 .5
    Color 1 1 0
    Surface "metal"
    Sphere 1 -1 1 360
    Scale 4 4 4
    Color 1 1 1
    Surface "metal"
    Sphere 1 -1 1 360
    TransformEnd

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#Creates the bottom booster of the spaceship

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    LightSource "distantlight" 2 "intensity" 1.5 "from" [0 0 -1]
    "to" [0 0 0]
    TransformBegin
    Translate -14 12 200
    Scale 1 .6 .5
    Color 1 1 0
    Surface "smetal"
    Sphere 1 -1 1 360
    Scale 4 4 4
    Color 1 1 1
    Surface "metal"
    Sphere 1 -1 1 360
    TransformEnd

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#Creates the background planet

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    LightSource "distantlight" 2 "intensity" 1.5 "from" [20 0 60]
    "to" [0 0 0]
    TransformBegin
    Translate -15 10 50
    Scale 3 3 0
    Surface "metal"
    Sphere 1 -1 1 360
    Color .5 .5 1.0
    Surface "metal"
    Scale 1.015 1.015 1.015
    Sphere 1 -1 1 360
    TransformEnd

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#Creates planet on the left

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    LightSource "distantlight" 2 "intensity" 1.5 "from" [20 0 60]
    "to" [0 0 0]
    TransformBegin
    Translate -30 -20 50
    Scale 20 20 0

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Color 1 .5 .3
Surface "rsmetal" "Ka" .5 "Ks" 1.0 "roughness" .2
    Sphere 1 -1 1 360
Color .5 .5 1.0
Surface "trans" "Kt" .0001 "Ks" .3 "Kd" .1 "Ka" .05
    Scale 1.015 1.015 1.015
    Sphere 1 -1 1 360
    TransformEnd

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#Creates the planet on the right using a sphere
    LightSource "distantlight" 2 "intensity" 1.5 "from" [0 0 -1]
    "to" [0 0 0]
    TransformBegin
    Translate 70 -30 200
    Scale 5 5 5
Color 1 1 0
Surface "rsmetal" "Ka" .5 "Ks" .8 "roughness" .5
    Sphere 1 -1 1 360
    Scale 8 8 8
Color 1 1 1
Surface "trans" "Kt" .4 "Ka" 0 "Ks" .95 "Kd" .05 "roughness" .5
    Sphere 1 -1 1 360
    TransformEnd

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#create the ring around the planet on the right using a sphere
    LightSource "distantlight" 2 "intensity" 1.5 "from" [-20 10 40]
    "to" [0 0 0]
    TransformBegin
    Translate 10 -2 45
    Rotate 60 0 1 0
    Rotate -30 0 0 1
Color 1 .5 0
Surface "rsmetal" "Ka" .5 "Ks" .8 "roughness" .5
    TransformBegin
    Translate 2.2 0 0
    Scale 2.5 .9 .9
    Sphere 10 -.7 .8 360
    TransformEnd

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WorldEnd

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