

| Transform   |
|---|
| +m: Mat4x4<br>+i: Mat4x4  |
| +Transform()<br>-Transform(m: Mat4x4, i: Mat4x4)<br>-translation(point: Point3): Transform<br>+rescale(x: Double, y: Double, z: Double): Transform<br>+rotationOnX(phi: Double): Transform<br>+rotationOnY(phi: Double): Transform<br>+rotationOnZ(phi: Double): Transform<br>+multiply(ray: Ray): Ray<br>+multiply(normal: Normal3): Normal3 |

| Geometry   |
|--|
| +material: Material                                  |
| +Geometry(material: Material)<br>+Hit(ray: Ray): Hit |



| Node  |
|---|
| +Attribute1   |
| +Node(transformationObject: Transform, geometryList: List<Geometry>)<br>+Hit(ray: Ray): Hit |

| Mat4x4   |
|--|
| +m11: double<br>+m12: double<br>+m13: double<br>+m14: double<br>+m21: double<br>+m22: double<br>+m23: double<br>+m24: double<br>+m31: double<br>+m32: double<br>+m33: double<br>+m34: double<br>+m41: double<br>+m42: double<br>+m43: double<br>+m44: double<br>+det: double   |
| +Mat4x4(m11: double, m12: double, m13: double, m14: double, m21: double, m22: double, m23: double, m24: double, m31: double, m32: double, m33: double, m34: double, m41: double, m42: double, m43: double, m44: double)<br>+mul(m: Mat4x4): Mat4x4<br>+transpose(): Mat4x4<br>+mul(v: Vector3): Vector3<br>+mul(p: Point3): Point3 |