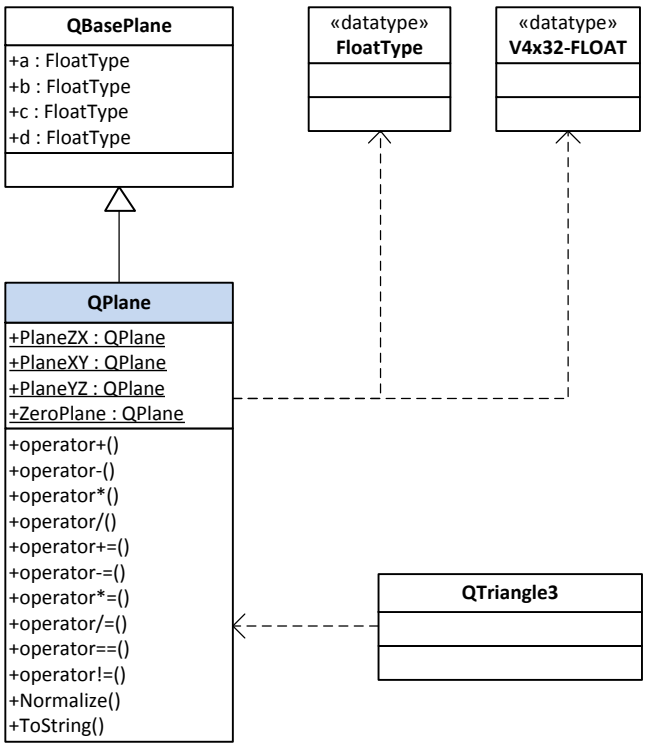
Diagrams



Knowledge Requirements

- Math
- See: Introduction to 3D Game Programming with DirectX 9.0, Part I.
- See: *<Program Files Folder>\Microsoft DirectX SDK (June 2010)\Documentation\DirectX9\windows_graphics.chm*, from DirectX SDK. Search for D3DXPLANE and D3DXPlane in "Index" tab.
- See: *http://www.zator.com/Cpp/E4_9_18.htm* to refresh operators overloading knowledge.
- See: *http://euclideanspace.com/maths/geometry/elements/plane/index.htm* .

Functional Specifications

- Override default constructor. Sets attributes to zero.
- Override copy constructor.
- Implement constructor that receives a QBasePlane type.
- Implement constructor that receives 4 FloatTypes, one for each plane components.
- Implement constructor that receives a 4-FloatTypes array.
- Implement constructor that receives a pointer-to-FloatType. The pointer should point to a dynamically allocated 4-FloatTypes array.
- Implement constructor that receives a V4x32-FLOAT.
- It is not necessary to override default destructor.
- It is not necessary to override assign operator.
- Operator* must offer an implementation that receives a FloatType (product by scalar).
- Operator/ must offer an implementation that receives a FloatType (division by scalar).
- A global operator* must be implemented in order to let a FloatType be multiplied by a QPlane. It's not the same QPlane * FloatType than FloatType * QPlane.

- A global operator/ must be implemented in order to let a FloatType be multiplied by a QPlane. It's not the same QPlane / FloatType than FloatType / QPlane.
- ToString format: "PL(A, B, C, D)". Use STL string.

Design / Technical Requirements

- Use member initialization lists.
- Remember using "explicit" when constructors receive only one parameter.
- No virtual methods.
- Use by-reference parameters always.
- Operator== and Operator!= must have Epsilon value into account.
- Try to avoid square roots.
- All methods should be inline.
- No exceptions.
- No error codes.
- No profiling.
- Check for division by zero. Use asserts.
- Respect diagram names.

Support People

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