Ⓒ Matrix

-double** data
-int rows
-int cols

+Matrix()
+Matrix(int n)
+Matrix(int r, int c)
+Matrix(std::vector<double>& inputArray)
+Matrix(const Matrix& otherMatrix)
+void setValue(int r, int c, double newValue)
+double getValue(int r, int c) const
+void clear()
+~Matrix()
+friend std::ostream& operator<<(std::ostream& os, const Matrix& obj)
+friend bool operator==(const Matrix& lhs, const Matrix& rhs)
+friend bool operator!=(const Matrix& lhs, const Matrix& rhs)
+Matrix& operator++()
+Matrix operator++(int)
+Matrix& operator--()
+Matrix operator--(int)
+friend void matrixSwap(Matrix& first, Matrix& second)
+Matrix& operator=(const Matrix& other)
+Matrix& operator+=(const Matrix& rhs)
+friend Matrix operator+(Matrix lhs, const Matrix& rhs)
+Matrix& operator-=(const Matrix& rhs)
+friend Matrix operator-(Matrix lhs, const Matrix& rhs)
+Matrix& operator*=(const Matrix& rhs)
+friend Matrix operator*(Matrix lhs, const Matrix& rhs)
+int getRows() const
+int getCols() const

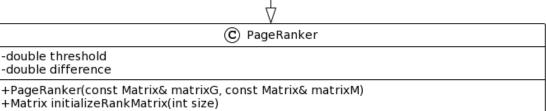## Ⓒ MatrixBuilder

-int rows
-int cols
-vector<vector<int>> matrixFromFile
-string lineTxtFile
-int value

+vector<vector<int>> readMatrixData(const string& fileName)
+void countRowsAndCols(const vector<vector<int>>& matrix)
+Matrix buildConnectivity(const string& fileName)
+Matrix buildStochastic(const Matrix& connectivityMatrix)
+Matrix buildTeleportation(const Matrix& connectivityMatrix)
+Matrix buildTransition(const Matrix& connectivityMatrix, const Matrix& stochasticMatrix, const Matrix& teleportationMatrix)

Ⓒ PageRanker

-double threshold
-double difference

+PageRanker(const Matrix& matrixG, const Matrix& matrixM)
+Matrix initializeRankMatrix(int size)
+void performMarkovProcess(const Matrix& matrixG, const Matrix& matrixM, Matrix& rank)
+void normalizeRankMatrix(Matrix& rank)
+void printPageRankings(const Matrix& rank)