package com.twitter.search.common.encoding.features;

/\*\*

\* Interface for compressing unbounded float values to a signed byte. It includes both

\* normalization of values and encoding of values in a byte.

\*/

public abstract class ByteNormalizer {

public static byte intToUnsignedByte(int i) {

return (byte) i;

}

public static int unsignedByteToInt(byte b) {

return (int) b & 0xFF;

}

/\*\*

\* Returns the byte-compressed value of {@code val}.

\*/

public abstract byte normalize(double val);

/\*\*

\* Returns a lower bound to the unnormalized range of {@code norm}.

\*/

public abstract double unnormLowerBound(byte norm);

/\*\*

\* Returns an upper bound to the unnormalized range of {@code norm}.

\*/

public abstract double unnormUpperBound(byte norm);

/\*\*

\* Returns true if the normalized value of {@code val} is different than the normalized value of

\* {@code val - 1}

\*/

public boolean changedNorm(double val) {

return normalize(val) != normalize(val - 1);

}

}