/\* ----------------------------------------------------------------------------

\* This file was automatically generated by SWIG (http://www.swig.org).

\* Version 4.0.2

\*

\* Do not make changes to this file unless you know what you are doing--modify

\* the SWIG interface file instead.

\* ----------------------------------------------------------------------------- \*/

package com.twitter.ann.faiss;

public class ProductQuantizer {

private transient long swigCPtr;

protected transient boolean swigCMemOwn;

protected ProductQuantizer(long cPtr, boolean cMemoryOwn) {

swigCMemOwn = cMemoryOwn;

swigCPtr = cPtr;

}

protected static long getCPtr(ProductQuantizer obj) {

return (obj == null) ? 0 : obj.swigCPtr;

}

@SuppressWarnings("deprecation")

protected void finalize() {

delete();

}

public synchronized void delete() {

if (swigCPtr != 0) {

if (swigCMemOwn) {

swigCMemOwn = false;

swigfaissJNI.delete\_ProductQuantizer(swigCPtr);

}

swigCPtr = 0;

}

}

public void setD(long value) {

swigfaissJNI.ProductQuantizer\_d\_set(swigCPtr, this, value);

}

public long getD() {

return swigfaissJNI.ProductQuantizer\_d\_get(swigCPtr, this);

}

public void setM(long value) {

swigfaissJNI.ProductQuantizer\_M\_set(swigCPtr, this, value);

}

public long getM() {

return swigfaissJNI.ProductQuantizer\_M\_get(swigCPtr, this);

}

public void setNbits(long value) {

swigfaissJNI.ProductQuantizer\_nbits\_set(swigCPtr, this, value);

}

public long getNbits() {

return swigfaissJNI.ProductQuantizer\_nbits\_get(swigCPtr, this);

}

public void setDsub(long value) {

swigfaissJNI.ProductQuantizer\_dsub\_set(swigCPtr, this, value);

}

public long getDsub() {

return swigfaissJNI.ProductQuantizer\_dsub\_get(swigCPtr, this);

}

public void setCode\_size(long value) {

swigfaissJNI.ProductQuantizer\_code\_size\_set(swigCPtr, this, value);

}

public long getCode\_size() {

return swigfaissJNI.ProductQuantizer\_code\_size\_get(swigCPtr, this);

}

public void setKsub(long value) {

swigfaissJNI.ProductQuantizer\_ksub\_set(swigCPtr, this, value);

}

public long getKsub() {

return swigfaissJNI.ProductQuantizer\_ksub\_get(swigCPtr, this);

}

public void setVerbose(boolean value) {

swigfaissJNI.ProductQuantizer\_verbose\_set(swigCPtr, this, value);

}

public boolean getVerbose() {

return swigfaissJNI.ProductQuantizer\_verbose\_get(swigCPtr, this);

}

public void setTrain\_type(ProductQuantizer.train\_type\_t value) {

swigfaissJNI.ProductQuantizer\_train\_type\_set(swigCPtr, this, value.swigValue());

}

public ProductQuantizer.train\_type\_t getTrain\_type() {

return ProductQuantizer.train\_type\_t.swigToEnum(swigfaissJNI.ProductQuantizer\_train\_type\_get(swigCPtr, this));

}

public void setCp(ClusteringParameters value) {

swigfaissJNI.ProductQuantizer\_cp\_set(swigCPtr, this, ClusteringParameters.getCPtr(value), value);

}

public ClusteringParameters getCp() {

long cPtr = swigfaissJNI.ProductQuantizer\_cp\_get(swigCPtr, this);

return (cPtr == 0) ? null : new ClusteringParameters(cPtr, false);

}

public void setAssign\_index(Index value) {

swigfaissJNI.ProductQuantizer\_assign\_index\_set(swigCPtr, this, Index.getCPtr(value), value);

}

public Index getAssign\_index() {

long cPtr = swigfaissJNI.ProductQuantizer\_assign\_index\_get(swigCPtr, this);

return (cPtr == 0) ? null : new Index(cPtr, false);

}

public void setCentroids(FloatVector value) {

swigfaissJNI.ProductQuantizer\_centroids\_set(swigCPtr, this, FloatVector.getCPtr(value), value);

}

public FloatVector getCentroids() {

long cPtr = swigfaissJNI.ProductQuantizer\_centroids\_get(swigCPtr, this);

return (cPtr == 0) ? null : new FloatVector(cPtr, false);

}

public SWIGTYPE\_p\_float get\_centroids(long m, long i) {

long cPtr = swigfaissJNI.ProductQuantizer\_get\_centroids(swigCPtr, this, m, i);

return (cPtr == 0) ? null : new SWIGTYPE\_p\_float(cPtr, false);

}

public void train(int n, SWIGTYPE\_p\_float x) {

swigfaissJNI.ProductQuantizer\_train(swigCPtr, this, n, SWIGTYPE\_p\_float.getCPtr(x));

}

public ProductQuantizer(long d, long M, long nbits) {

this(swigfaissJNI.new\_ProductQuantizer\_\_SWIG\_0(d, M, nbits), true);

}

public ProductQuantizer() {

this(swigfaissJNI.new\_ProductQuantizer\_\_SWIG\_1(), true);

}

public void set\_derived\_values() {

swigfaissJNI.ProductQuantizer\_set\_derived\_values(swigCPtr, this);

}

public void set\_params(SWIGTYPE\_p\_float centroids, int m) {

swigfaissJNI.ProductQuantizer\_set\_params(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(centroids), m);

}

public void compute\_code(SWIGTYPE\_p\_float x, SWIGTYPE\_p\_unsigned\_char code) {

swigfaissJNI.ProductQuantizer\_compute\_code(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_unsigned\_char.getCPtr(code));

}

public void compute\_codes(SWIGTYPE\_p\_float x, SWIGTYPE\_p\_unsigned\_char codes, long n) {

swigfaissJNI.ProductQuantizer\_compute\_codes(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_unsigned\_char.getCPtr(codes), n);

}

public void compute\_codes\_with\_assign\_index(SWIGTYPE\_p\_float x, SWIGTYPE\_p\_unsigned\_char codes, long n) {

swigfaissJNI.ProductQuantizer\_compute\_codes\_with\_assign\_index(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_unsigned\_char.getCPtr(codes), n);

}

public void decode(SWIGTYPE\_p\_unsigned\_char code, SWIGTYPE\_p\_float x) {

swigfaissJNI.ProductQuantizer\_decode\_\_SWIG\_0(swigCPtr, this, SWIGTYPE\_p\_unsigned\_char.getCPtr(code), SWIGTYPE\_p\_float.getCPtr(x));

}

public void decode(SWIGTYPE\_p\_unsigned\_char code, SWIGTYPE\_p\_float x, long n) {

swigfaissJNI.ProductQuantizer\_decode\_\_SWIG\_1(swigCPtr, this, SWIGTYPE\_p\_unsigned\_char.getCPtr(code), SWIGTYPE\_p\_float.getCPtr(x), n);

}

public void compute\_code\_from\_distance\_table(SWIGTYPE\_p\_float tab, SWIGTYPE\_p\_unsigned\_char code) {

swigfaissJNI.ProductQuantizer\_compute\_code\_from\_distance\_table(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(tab), SWIGTYPE\_p\_unsigned\_char.getCPtr(code));

}

public void compute\_distance\_table(SWIGTYPE\_p\_float x, SWIGTYPE\_p\_float dis\_table) {

swigfaissJNI.ProductQuantizer\_compute\_distance\_table(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_float.getCPtr(dis\_table));

}

public void compute\_inner\_prod\_table(SWIGTYPE\_p\_float x, SWIGTYPE\_p\_float dis\_table) {

swigfaissJNI.ProductQuantizer\_compute\_inner\_prod\_table(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_float.getCPtr(dis\_table));

}

public void compute\_distance\_tables(long nx, SWIGTYPE\_p\_float x, SWIGTYPE\_p\_float dis\_tables) {

swigfaissJNI.ProductQuantizer\_compute\_distance\_tables(swigCPtr, this, nx, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_float.getCPtr(dis\_tables));

}

public void compute\_inner\_prod\_tables(long nx, SWIGTYPE\_p\_float x, SWIGTYPE\_p\_float dis\_tables) {

swigfaissJNI.ProductQuantizer\_compute\_inner\_prod\_tables(swigCPtr, this, nx, SWIGTYPE\_p\_float.getCPtr(x), SWIGTYPE\_p\_float.getCPtr(dis\_tables));

}

public void search(SWIGTYPE\_p\_float x, long nx, SWIGTYPE\_p\_unsigned\_char codes, long ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t res, boolean init\_finalize\_heap) {

swigfaissJNI.ProductQuantizer\_search\_\_SWIG\_0(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), nx, SWIGTYPE\_p\_unsigned\_char.getCPtr(codes), ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t.getCPtr(res), init\_finalize\_heap);

}

public void search(SWIGTYPE\_p\_float x, long nx, SWIGTYPE\_p\_unsigned\_char codes, long ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t res) {

swigfaissJNI.ProductQuantizer\_search\_\_SWIG\_1(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), nx, SWIGTYPE\_p\_unsigned\_char.getCPtr(codes), ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t.getCPtr(res));

}

public void search\_ip(SWIGTYPE\_p\_float x, long nx, SWIGTYPE\_p\_unsigned\_char codes, long ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMinT\_float\_int64\_t\_t\_t res, boolean init\_finalize\_heap) {

swigfaissJNI.ProductQuantizer\_search\_ip\_\_SWIG\_0(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), nx, SWIGTYPE\_p\_unsigned\_char.getCPtr(codes), ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMinT\_float\_int64\_t\_t\_t.getCPtr(res), init\_finalize\_heap);

}

public void search\_ip(SWIGTYPE\_p\_float x, long nx, SWIGTYPE\_p\_unsigned\_char codes, long ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMinT\_float\_int64\_t\_t\_t res) {

swigfaissJNI.ProductQuantizer\_search\_ip\_\_SWIG\_1(swigCPtr, this, SWIGTYPE\_p\_float.getCPtr(x), nx, SWIGTYPE\_p\_unsigned\_char.getCPtr(codes), ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMinT\_float\_int64\_t\_t\_t.getCPtr(res));

}

public void setSdc\_table(FloatVector value) {

swigfaissJNI.ProductQuantizer\_sdc\_table\_set(swigCPtr, this, FloatVector.getCPtr(value), value);

}

public FloatVector getSdc\_table() {

long cPtr = swigfaissJNI.ProductQuantizer\_sdc\_table\_get(swigCPtr, this);

return (cPtr == 0) ? null : new FloatVector(cPtr, false);

}

public void compute\_sdc\_table() {

swigfaissJNI.ProductQuantizer\_compute\_sdc\_table(swigCPtr, this);

}

public void search\_sdc(SWIGTYPE\_p\_unsigned\_char qcodes, long nq, SWIGTYPE\_p\_unsigned\_char bcodes, long ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t res, boolean init\_finalize\_heap) {

swigfaissJNI.ProductQuantizer\_search\_sdc\_\_SWIG\_0(swigCPtr, this, SWIGTYPE\_p\_unsigned\_char.getCPtr(qcodes), nq, SWIGTYPE\_p\_unsigned\_char.getCPtr(bcodes), ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t.getCPtr(res), init\_finalize\_heap);

}

public void search\_sdc(SWIGTYPE\_p\_unsigned\_char qcodes, long nq, SWIGTYPE\_p\_unsigned\_char bcodes, long ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t res) {

swigfaissJNI.ProductQuantizer\_search\_sdc\_\_SWIG\_1(swigCPtr, this, SWIGTYPE\_p\_unsigned\_char.getCPtr(qcodes), nq, SWIGTYPE\_p\_unsigned\_char.getCPtr(bcodes), ncodes, SWIGTYPE\_p\_faiss\_\_HeapArrayT\_faiss\_\_CMaxT\_float\_int64\_t\_t\_t.getCPtr(res));

}

public final static class train\_type\_t {

public final static ProductQuantizer.train\_type\_t Train\_default = new ProductQuantizer.train\_type\_t("Train\_default");

public final static ProductQuantizer.train\_type\_t Train\_hot\_start = new ProductQuantizer.train\_type\_t("Train\_hot\_start");

public final static ProductQuantizer.train\_type\_t Train\_shared = new ProductQuantizer.train\_type\_t("Train\_shared");

public final static ProductQuantizer.train\_type\_t Train\_hypercube = new ProductQuantizer.train\_type\_t("Train\_hypercube");

public final static ProductQuantizer.train\_type\_t Train\_hypercube\_pca = new ProductQuantizer.train\_type\_t("Train\_hypercube\_pca");

public final int swigValue() {

return swigValue;

}

public String toString() {

return swigName;

}

public static train\_type\_t swigToEnum(int swigValue) {

if (swigValue < swigValues.length && swigValue >= 0 && swigValues[swigValue].swigValue == swigValue)

return swigValues[swigValue];

for (int i = 0; i < swigValues.length; i++)

if (swigValues[i].swigValue == swigValue)

return swigValues[i];

throw new IllegalArgumentException("No enum " + train\_type\_t.class + " with value " + swigValue);

}

private train\_type\_t(String swigName) {

this.swigName = swigName;

this.swigValue = swigNext++;

}

private train\_type\_t(String swigName, int swigValue) {

this.swigName = swigName;

this.swigValue = swigValue;

swigNext = swigValue+1;

}

private train\_type\_t(String swigName, train\_type\_t swigEnum) {

this.swigName = swigName;

this.swigValue = swigEnum.swigValue;

swigNext = this.swigValue+1;

}

private static train\_type\_t[] swigValues = { Train\_default, Train\_hot\_start, Train\_shared, Train\_hypercube, Train\_hypercube\_pca };

private static int swigNext = 0;

private final int swigValue;

private final String swigName;

}

}