```
/* Estimates covariance statistics given reader data for two modalities
 *
 * Key fields
 * -- {@link #AUCsReaderAvg}
 * -- {@link #AUCs}
 * -- {@link #momentsAA}, {@link #momentsAB}, {@link #momentsBB}
 * -- {@link #momentsBiasedAA}, {@link #momentsBiasedAB}, {@link #momentsBiasedBB}
 * -- {@link #coefficientsAA}, {@link #coefficientsAB}, {@link #coefficientsBB}
 * -- {@link #fullyCrossedA}, {@link #fullyCrossedB}, {@link #fullyCrossedAB}
 * @author Xin He, Ph.D,
 * @author Brandon D. Gallas, Ph.D
 * @author Rohan Pathare */
```

public class CovMRMC

InputFile InputFileStat;   /* {@link mrmc.core.InputFile} */

DBRecord DBRecordStat, DBRecordSize;   /* {@link mrmc.core.DBRecord} */

SizePanel SizePanel1;   /* {@link mrmc.gui.SizePanel} n*/

public double[]
momentsAA = new double[9],
momentsBB = new double[9],
momentsAB = new double[9];
/* The U-statistic moments according to Gallas2009_Commun-Stat-A-Theor_v38p2586 (first element is empty). */

public double[]
momentsAA = new double[9],
momentsBB = new double[9],
momentsAB = new double[9];
/* The MLE moments according to Gallas2009_Commun-Stat-A-Theor_v38p2586 (first element is empty). */

public double[]
coefficientsAA = new double[9],
coefficientsBB = new double[9],
coefficientsAB = new double[9];
/* The coefficients according to Gallas2009_Commun-Stat-A-Theor_v38p2586 (first element is empty) */

public double[][][] t0_modAB,
t1_modAB, t0_modAA, t1_modAA,
t0_modBB, t1_modBB;
public int[][][] d0_modAB,
d1_modAB, d0_modAA,
d1_modAA, d0_modBB,
d1_modBB;
/* The MLE moments according to Gallas2009_Commun-Stat-A-Theor_v38p2586 (first element is empty). */

public double[][][] t0_modAB, t1_modAB, t0_modAA,
t1_modAA, t0_modBB, t1_modBB;
public int[][][] d0_modAB, d1_modAB, d0_modAA,
d1_modAA, d0_modBB, d1_modBB;
/* The scores from the readers */

private double[] AUCsReaderAvg;   /* The reader-averaged auc for each modality */

private double[][] AUCs;
private long Nnormal, Ndisease, Nreader;
boolean fullyCrossedA = true, fullyCrossedB = true, fullyCrossedAB = true;
/* The AUCs for each reader and modality [Nreader][2] */

End