```java
package problems.qbf;

import java.io.IOException;

/**
* Class representing the inverse of the Quadractic Binary Function
* ({@link QBF}), which is used since the GRASP is set by
* default as a minimization procedure.
*
* @author ccavellucci, fusberti
*/
public class QBF_Inverse extends QBF {

   /**
    * Constructor for the QBF_Inverse class.
    *
    * @param filename
    *            Name of the file for which the objective function parameters
    *            should be read.
    * @throws IOException
    *             Necessary for I/O operations.
    */
   public QBF_Inverse(String filename) throws IOException {
       super(filename);
   }


   /* (non-Javadoc)
    * @see problems.qbf.QBF#evaluate()
    */
   @Override
   public Double evaluateQBF() {
       return -super.evaluateQBF();
   }

   /* (non-Javadoc)
    * @see problems.qbf.QBF#evaluateInsertion(int)
    */
   @Override
   public Double evaluateInsertionQBF(int i) {
       return -super.evaluateInsertionQBF(i);
   }
```

```
    /* (non-Javadoc)
     * @see problems.qbf.QBF#evaluateRemoval(int)
     */
    @Override
    public Double evaluateRemovalQBF(int i) {
        return -super.evaluateRemovalQBF(i);
    }

    /* (non-Javadoc)
     * @see problems.qbf.QBF#evaluateExchange(int, int)
     */
    @Override
    public Double evaluateExchangeQBF(int in, int out) {
        return -super.evaluateExchangeQBF(in,out);
    }

}
```