

# Data Mining & Machine Learning

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**Know what you are doing!**

**ask questions!**

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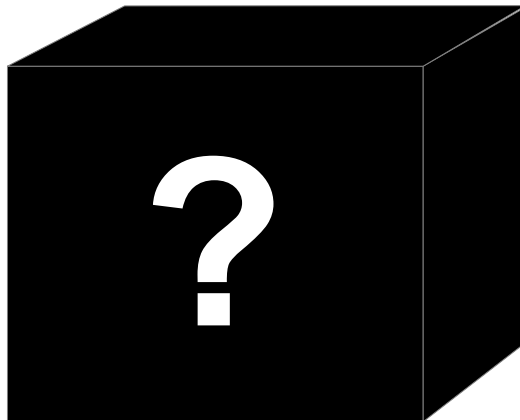
**Exercises are not mandatory**

**Understanding, not “memorizing”**

**Rapidminer**  
**Weka**  
**IBM SPSS Miner**  
...

VS.

**Octave/Matlab**  
**Java**  
**C++**  
**R**  
...



```
#ifndef _BASE
#define _BASE

#include "../utilities/mxutils.c"

typedef struct {
    int numclass, maxclass;
    HH hh;
    QQ *classqq;
    double *beta;
} BASE;

BASE *mxReadBase(mxArray *mstruct) {
    BASE *result;
    int ii, maxclass;
    result = mxMalloc(sizeof(BASE));
    result->numclass = mxReadScalar(mxReadField(mstruct,"numclass"));
    result->maxclass = maxclass = (result->numclass+2) * 2;
    result->hh = mxReadHH(mxReadField(mstruct,"hh"));
    result->classqq = mxReadQQVector(result->hh,mxReadField(mstruct,"classqq"),
        result->maxclass);
    result->beta = mxMalloc(sizeof(double)*maxclass);
    for (ii = 0 ; ii < maxclass ; ii++)
        result->beta[ii] = 0.0;
    result->beta[result->numclass] = 1.0;
    return result;
}

void mxWriteBase(mxArray *result,BASE *base) {
    mxWriteField(result,"numclass",mxWriteScalar(base->numclass));
    mxWriteField(result,"classqq",mxWriteQQVector(base->hh,
        base->numclass+1,base->maxclass,base->classqq));
    mxFreeHH(base->hh);
    mxFree(base->beta);
    mxFree(base);
}
```

## Octave tutorials:

[www.uni-koblenz.de/~agas/lehre/ss03/sfm/octave/octave-tutorial.pdf](http://www.uni-koblenz.de/~agas/lehre/ss03/sfm/octave/octave-tutorial.pdf)

[http://en.wikibooks.org/wiki/Octave\\_Programming\\_Tutorial](http://en.wikibooks.org/wiki/Octave_Programming_Tutorial)

<http://wiki.octave.org>

...

## Installation in Debian/Ubuntu:

Octave + Octave statistics package + GNUplot

```
sudo apt-get install octave octave-gsl octave-  
miscellaneous octave-statistics gnuplot
```

**Other OS: [octave.org](http://octave.org)**