

```

- init
{
    [super init];
    ..... // some code here

    mmaProcessor = [[MiscMMAProcessor alloc] init];

    // we let mmaProcessor open a link and initialize a Mathlink environment
    // this is a "handy" code block
    if(![mmaProcessor openLink]){
        ..... // error
    }
    .....
    return self;
}

```

```

- (void)invertMatrix:(const double *)matrix size:(int)n in:(double *)result
{
    ..... // some code here
    tempBuffer = result; // suppose tempBuffer is an instance variable

    MLINK lp = [mmaProcessor link];

    MLPutFunction(lp, "Inverse", 1);
    MLPutFunction(lp, "List", n);
    for(i = 0; i < n; i++){
        MLPutFunction(lp, "List", n);
        for(j = 0; j < n; j++){
            MLPutReal(lp, matrix[i * n + j]);
        }
    }
    MLEndPacket(lp);

    // we let mmaProcessor read packets for us
    // this is another "handy" code block
    // note here that we provide ourselves to read the RETURNPKT packet

```

```
// which interests us (the inverted matrix)
// all other packets are read by mmaProcessor and prepared for the
// returning NSDictionary
// we have to read the matrix in the method below, which gets called
// when mmaProcessor encounters the desired packet
```

```
[mmaProcessor readReturnWithReader:self];
```

```
}
```

```
- (void)readReturnPacketWithProcessor:(MiscMMAProcessor *)aProcessor // MiscMMAReturnPacketReading protocol
```

```
{
```

```
    double *mmaReturnList;
    long i,j,mmaReturnCount, len;
```

```
    ..... // some code
```

```
    MLINK lp = [mmaProcessor link];
```

```
    MLCheckFunction(lp,"List",&len);
```

```
    for(i = 0; i < len; i++){
        if(!MLGetRealList(lp,&mmaReturnList,&mmaReturnCount)){
            ..... // error
        }
    }
```

```
        for(j = 0; j < mmaReturnCount; j++)
            tempBuffer[i * mmaReturnCount + j] = mmaReturnList[j];
```

```
        MLDisownRealList(lp,mmaReturnList,mmaReturnCount);
```

```
    }
```

```
}
```