TASK 2 - Understanding Design Patterns in C
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matrix.h

```
#ifndef MAT
#define MAT

#define DELETED 2
#define MATRIX_NOT_FOUND 3

typedef struct _matrix *matrix_t;

matrix_t *matrix_create(int n_i, int n_j, int* result); // for creating a new matrix
void matrix_del(matrix_t* matrix); // deleting the matrix

#endif
```

matrix.c

```
#include<stdio.h>
#include "matrix.h"
#include<errno.h>

extern int errno;

typdef struct _matrix{
        int i,j; //rows and columns
        float *value; // data
};


matrix_t *matrix_create(int n_i, int n_j, int* status);
{
        if(n_i <= 0 || n_j <= 0)
        {
                status = errno;
                return status;
        }
        struct matrix_t *matrix = malloc(sizeof(*matrix));
        matrix->i=n_i;
        matrix->j=n_j;
        matrix->value = malloc( i * j * sizeof(float*));
        return matrix;
}
```

```c
void matrix_del(matrix_t* matrix);
{
        if (matrix == NULL)
        {
                return MATRIX_NOT_FOUND;
        }
        else{
                free(matrix->value);
                free(matrix);
                return DELETE;
        }
}
```