

**Инкапсуляция. Чтение заголовка bmp**

При компиляции использовать ключ `-pack-struct`

```
// Programming 1. Sample at 2017-05-04-14-20.53
#include <stdio.h>

union BMP_HEADER
{
    char data[14];
    struct
    {
        unsigned short signature;
        unsigned int size;
        unsigned int reserved12;
        unsigned int offset;
    } hdr;
};

class BmpImage
{
    FILE *m_file;
    char *m_data;
    const char *m_name;
    BMP_HEADER m_header;

public:

    BmpImage()
    {
        m_file = NULL;
        m_data = NULL;
        m_name = NULL;
    }

    BmpImage(const char *name)
    {
        m_name = name;
        m_file = NULL;
        m_data = NULL;
        printf("Hello, I'm created, my name is %s\n",m_name);
    }

    void print()
    {
        for(int i=0;i<sizeof(m_header);++i)
        {
```

```
        printf("%c(%x)", m_header.data[i], m_header.data[i]);
    }
    printf("[%u %u %u %u]\n", m_header.hdr.signature,
           m_header.hdr.size,
           m_header.hdr.reserved12,
           m_header.hdr.offset);
}

bool open()
{
    m_file = fopen(m_name, "rb");
    if(NULL == m_file)
        return false;
    fread(&m_header.data, sizeof(char), sizeof(m_header.data), m_file);
    // m_data = new char [???];
    return true;
}

~BmpImage()
{
    if(m_file)
        fclose(m_file);
    printf("bye I'm destroyed, my name was %s\n", m_name);
}
};

int main(/*int c, char **v */)
{
    BmpImage b("image.bmp");
    if(!b.open())
    {
        printf("Couldn't open image\n");
        return -1;
    }

    printf("BMP_HEADER size = %ld\n", sizeof(BMP_HEADER));

    b.print();
    return 0;
}
```

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