

```
1  #include "framework.h"
2  #include "math.h"
3  #include "fftw3.h"
4  #include "GetFreq_REC.h"
5
6  // *** object initialization ***
7
8  GetFreq_REC::GetFreq_REC()
9  {
10     brUz = 0; switch = 0;
11     R = NULL; largest = NULL;
12
13     X = new double[1014];
14     S = new double* [26];
15     for (int i = 0; i < 26; i++)
16         S[i] = new double[78];
17     S1 = new double* [26];
18     for (int i = 0; i < 26; i++)
19         S1[i] = new double[26];
20     S2 = new double* [26];
21     for (int i = 0; i < 26; i++)
22         S2[i] = new double[13];
23     SX_R = new double* [26];
24     for (int i = 0; i < 26; i++)
25         SX_R[i] = new double[26];
26     SX_G = new double* [26];
27     for (int i = 0; i < 26; i++)
28         SX_G[i] = new double[26];
29     SX_B = new double* [26];
30     for (int i = 0; i < 26; i++)
31         SX_B[i] = new double[26];
32
33     x = (double*)fftw_malloc(sizeof(double) * 26 * 26);
```

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34     y = (fftw_complex*)fftw_malloc(sizeof(fftw_complex) * 26 * 14);
35     plan = fftw_plan_dft_r2c_2d(26, 26, x, y, FFTW_ESTIMATE);
36 }
37
38 // *** object destruction ***
39
40 GetFreq_REC::~GetFreq_REC()
41 {
42     delete[] X;
43     for (int i = 0; i < 26; i++)
44         delete[]S[i];
45     delete[]S;
46     for (int i = 0; i < 26; i++)
47         delete[]S1[i];
48     delete[]S1;
49     for (int i = 0; i < 26; i++)
50         delete[]S2[i];
51     delete[]S2;
52     for (int i = 0; i < 26; i++)
53         delete[]SX_R[i];
54     delete[]SX_R;
55     for (int i = 0; i < 26; i++)
56         delete[]SX_G[i];
57     delete[]SX_G;
58     for (int i = 0; i < 26; i++)
59         delete[]SX_B[i];
60     delete[]SX_B;
61
62     fftw_free(x); fftw_free(y);
63     fftw_destroy_plan(plan);
64 }
```