

```

1 /* blurBad.c */
2 #include <stdio.h>
3 #include <time.h>
4 #include <sys/time.h>
5 #define M 1024
6 #define N 1024
7 void main( void )
8 {
9     FILE          *fpr, *fpw;
10    double         sum;
11    int            iip, i, j, m, n, mx, ny;
12    static unsigned char  ip[N][M], c;
13    static int       jp[N][M];
14    double          ts, te, etimeClock, etimeGettimeofday;
15    clock_t        start, finish;
16
17    double gettimeofday_sec()
18    {
19        struct timeval tv;
20        gettimeofday(&tv, NULL);
21        return tv.tv_sec + (double)tv.tv_usec*1e-6;
22    }
23
24    fpr = fopen("myareaNew.gray", "rb");
25    fpw = fopen("blurBad.gray", "wb");
26
27    start = clock();
28    ts = gettimeofday_sec();
29    for (j=0; j < N; j++) {
30        for (i=0; i < M; i++) {
31            jp[j][i]=0;
32        }
33    }
34
35    for (j=0; j < N; j++) {
36        for (i=0; i < M; i++) {
37            fseek(fpr, M*j+i, 0);
38            ip[j][i]=fgetc(fpr);
39        }
40    }
41
42    for (j=1; j < N-1; j++) {
43        for (i=1; i < M-1; i++) {
44            sum = 0.0000;
45            for (n=1; n <= 3; n++) {
46                ny = j-2+n;
47                for (m=1; m <= 3; m++) {
48                    mx = i-2+m;
49                    iip = ip[ny][mx];
50                    sum += iip;
51                }
52            }
53            sum = sum/9.0;
54            jp[j][i] = (int) (sum + 0.5);
55            c = jp[j][i];
56            fputc(c, fpw);
57        }
58    }
59    te = gettimeofday_sec();
60    finish = clock();
61    /* printf("te value: %lf\n", te);
62    printf("ts value: %lf\n", ts) */;
63
64    etimeGettimeofday = te - ts;
65    etimeClock=(double) (finish-start)/CLOCKS_PER_SEC;
66    printf("elapse time: %lf seconds (%lf precise sec.)\n", etimeClock, etimeGettimeofday);

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67
68     fclose(fpr);
69     fclose(fpw);
70 }
```