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PADP LAB, A1

PROGRAM-4

CODE:

```
#include <stdio.h>

#include <error.h>

#include <gd.h>

#include <string.h>

#include <omp.h>


int main(int argc, char **argv)
{

    FILE *fp,*fp1 = {0};

    gdImagePtr img;

    char iname[15];

    char oname[15];

    int color, x, y, i=0;

    int red, green, blue,tmp,tid;

    long w,h;


    color = x = y = w = h = 0;

    red = green = blue = 0;


    //char inputnames[4][15] =
{"input1.png","input2.png","input3.png","input4.png"};

    //char outputnames[4][15] =
{"output1.png","output2.png","output3.png","output4.png"};

    omp_sched_t def_sched; int def_chunk_size;
```

```

omp_get_schedule(&def_sched,&def_chunk_size);
printf("Deafault %d %d \n",def_sched,def_chunk_size);
printf("Size\t\tDefault\t\tStatic\t\tDynamic\t\tGuided\n");
for(int i=0;i<4;i++){
    sprintf(iname,"in%d.png",i+1);

    for(int sched=0x0; sched<=0x3; sched++){
        fp = fopen(iname,"r");
        sprintf(oname,"Output%d%d.png",i+1,sched);
        img = gdImageCreateFromPng(fp);
        w = gdImageSX(img);
        h = gdImageSY(img);

        if(sched == 0x0){
            printf("%ldx%ld\t",w,h);
            if(i<=1) printf("\t");
            omp_set_schedule(def_sched,def_chunk_size);
        }
        else
            omp_set_schedule(sched,0);

        double t = omp_get_wtime();
        #pragma omp parallel for private(y,color,red,green,blue,tmp,tid)
//schedule(dynamic)
        for(x = 0; x < w; x++)
        {

            for(y = 0; y < h; y++)
            {
                tid=omp_get_thread_num();

```

```

        color=gdImageGetPixel(img, x, y);
        red  = gdImageRed(img, color);
        green = gdImageGreen(img, color);
        blue  = gdImageBlue(img, color);
        tmp = (red+green+blue)/ 3;
        red = green = blue = tmp;
        color = gdImageColorAllocate(img, red, green, blue);
        gdImageSetPixel(img, x, y, color);

    t = omp_get_wtime() - t;
    //printf("Output name %s",oname);
    fp1=fopen(oname,"w");
    gdImagePng(img, fp1);
    fclose(fp1);

    gdImageDestroy(img);
    printf("%.6f\t",t);
}
printf("\n");
}
return 0;
}

```

OUTPUT:

```
rohit@Rohit: /mnt/c/users/rohit/Desktop/New folder
rohit@Rohit:/mnt/c/users/rohit/Desktop/New folder$ gcc prog4.c -fopenmp -lgd
rohit@Rohit:/mnt/c/users/rohit/Desktop/New folder$ ./a.out
Deafault 2 1
Size      Default      Static      Dynamic      Guided
800x500   0.011171     0.008589    0.008697     0.008921
912x513   0.010275     0.023642    0.010733     0.027787
1920x1080 0.068456     0.059489    0.057786     0.058231
1800x1350 0.070451     0.076877    0.070236     0.071564
rohit@Rohit:/mnt/c/users/rohit/Desktop/New folder$
```



