

PADP lab Program 5

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;

    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);
```

```

//oname = outputnames[i];
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);

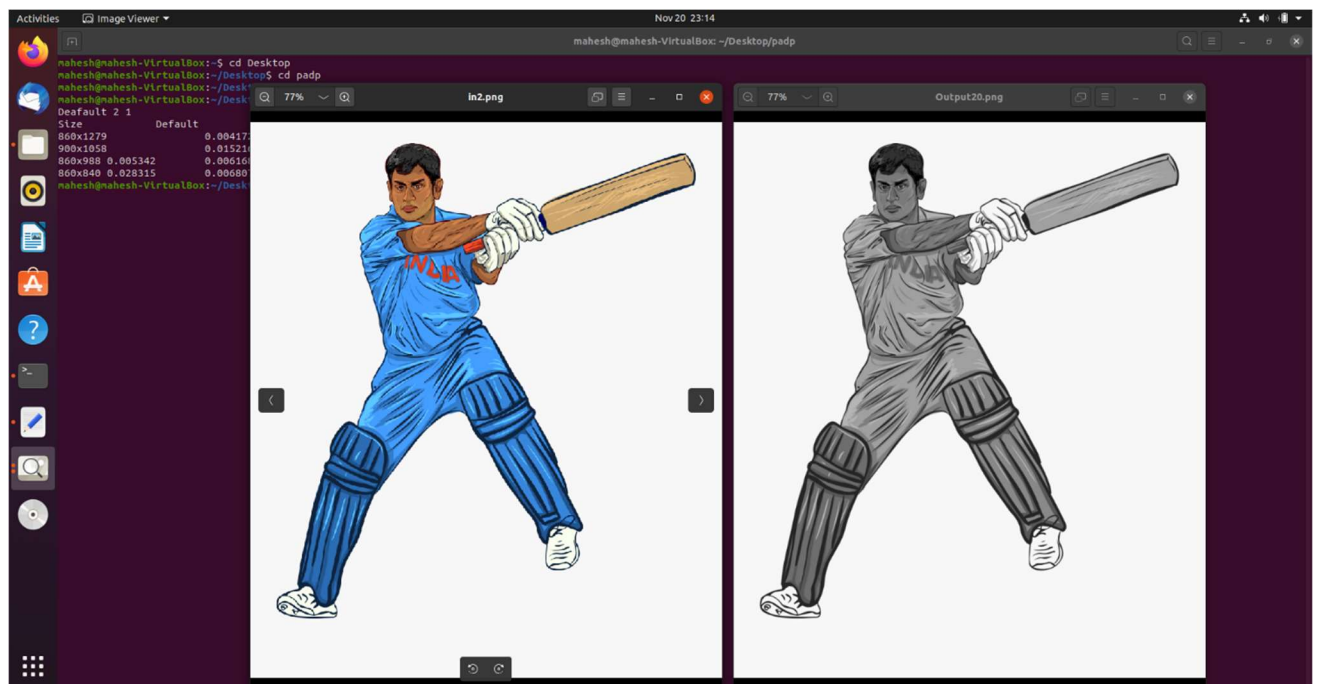
gdImageDestroy(img);
printf("%.6f\t",t);
}

printf("\n");
}

return 0;
}
```

Output:

```
Activities Terminal
mahesh@mahesh-VirtualBox:~$ cd Desktop
mahesh@mahesh-VirtualBox:~/Desktop$ cd padp
mahesh@mahesh-VirtualBox:~/Desktop/padp$ gcc -fopenmp prog5.c -lgd
mahesh@mahesh-VirtualBox:~/Desktop/padp$ ./a.out
Deafault 2 1
Size      Default      Static      Dynamic      Guided
860x1279      0.004172      0.016338      0.004007      0.009304
900x1058      0.015216      0.023113      0.008354      0.004014
860x988 0.005342      0.006168      0.003347      0.003038
860x840 0.028315      0.006807      0.002779      0.011115
mahesh@mahesh-VirtualBox:~/Desktop/padp$
```





Graphs:

