

Advanced Programming for HPC - Report 1

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How do I implement the conversion ?

- Added the calculation code from `labwork1_CPU()` to `labwork1_OpenMP()` Added the line `pragma omp parallel for`

```
void Labwork::labwork1_OpenMP() {  
    printf("Open MP");  
    int pixelCount = inputImage->width * inputImage->height;  
    outputImage = static_cast<char *>(malloc(pixelCount * 3));  
    // do something here  
    # pragma omp parallel for  
    for (int j = 0; j < 100; j++) {        // let's do it 100 times, otherwise it's too fast!  
        for (int i = 0; i < pixelCount; i++) {  
            outputImage[i * 3] = (char) (((int) inputImage->buffer[i * 3] + (int) inputImage->buffer[i * 3 + 1]) * 0.5);  
            outputImage[i * 3 + 1] = outputImage[i * 3];  
            outputImage[i * 3 + 2] = outputImage[i * 3];  
        }  
    }  
}
```

What is the speed up ?

- labwork 1 CPU elapsed 261 ms
- labwork 1 elapsed 43.4 ms (OpenMP modified)

It looks like 7 times faster !