Report.1.OpenMP

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1   How implement the conversion?

```
void Labwork::labwork1_OpenMP() {
    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 fas
        for (int i = 0; i < pixelCount; i++) {
            outputImage[i * 3] = (char) (((int) inputImage->buffer[i * 3] + (int) inputI
                                    (int) inputImage->buffer[i * 3 + 2]) / 3);
            outputImage[i * 3 + 1] = outputImage[i * 3];
            outputImage[i * 3 + 2] = outputImage[i * 3];
        }
    }
}
```

2   What's the speedup?

```
Starting labwork 1
labwork 1 CPU ellapsed 4214.7ms
labwork 1 CPU OMP ellapsed 353.4ms
labwork 1 ellapsed 489.6ms
```

3   Experimenting with different OpenMP parameters

Team size

```
labwork 1 CPU ellapsed 4057.8ms
1: 3759.6ms
2: 2182.3ms
3: 1302.8ms
```

```
4:  1040.9ms
5:  820.4ms
6:  745.2ms
7:  658.2ms
8:  582.8ms
9:  530.4ms
10: 581.9ms
11: 533.3ms
12: 558.2ms
13: 518.6ms
14: 401.9ms
15: 372.2ms
16: 369.7ms
```