

Labwork 7

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1 Greyscaling

In this labwork, we just take the code from labwork 4. Here are the results of greyscaling with different block size values :



Figure 1: Result of Greyscaling

```
Block size = 1 x 1 -> Time taken = 0.076781 sec
Block size = 2 x 2 -> Time taken = 0.000548 sec
Block size = 4 x 4 -> Time taken = 0.000116 sec
Block size = 8 x 8 -> Time taken = 0.000085 sec
Block size = 12 x 12 -> Time taken = 0.000080 sec
Block size = 16 x 16 -> Time taken = 0.000112 sec
Block size = 20 x 20 -> Time taken = 0.000080 sec
Block size = 24 x 24 -> Time taken = 0.000074 sec
Block size = 28 x 28 -> Time taken = 0.000097 sec
Block size = 32 x 32 -> Time taken = 0.000086 sec
```

Figure 2: Time taken for different block size values

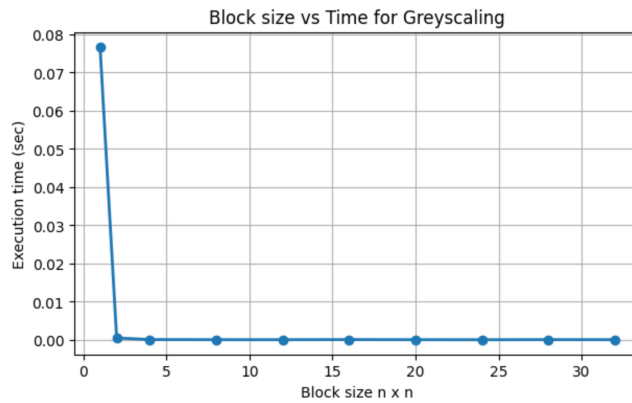


Figure 3: Graph of time taken for different block size values

2 Find Min / Max

In this part, we take the code from the presentation and adapt it while following the instructions. The code to calculate the minimum and the one for the maximum are the same. Here are the results :

```
VALUE FOR MINIMUM AND MAXIMUM
Minimum value: 42.0
Maximum value: 247.0
```

Figure 4: Result of minimum and maximum intensity of image

3 Recalculation

Finally, for the recalculation, we take the same code structure as for the first part, and we just change the core of the function. Here are the results with different block size values :



Figure 5: Result of recalculation

```

Block size = 1 x 1 -> Time taken = 0.063895 sec
Block size = 2 x 2 -> Time taken = 0.000520 sec
Block size = 4 x 4 -> Time taken = 0.000152 sec
Block size = 8 x 8 -> Time taken = 0.000111 sec
Block size = 12 x 12 -> Time taken = 0.000108 sec
Block size = 16 x 16 -> Time taken = 0.000157 sec
Block size = 20 x 20 -> Time taken = 0.000110 sec
Block size = 24 x 24 -> Time taken = 0.000153 sec
Block size = 28 x 28 -> Time taken = 0.000147 sec
Block size = 32 x 32 -> Time taken = 0.000090 sec

```

Figure 6: Time taken for different block size values for recalculation

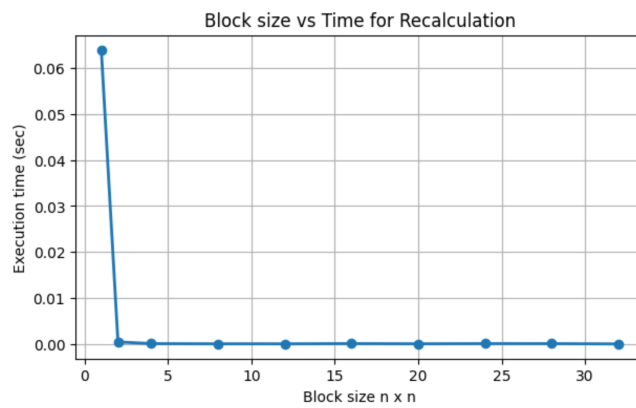


Figure 7: Graph of time taken for different block size values for recalculation