Лабораторная 1.

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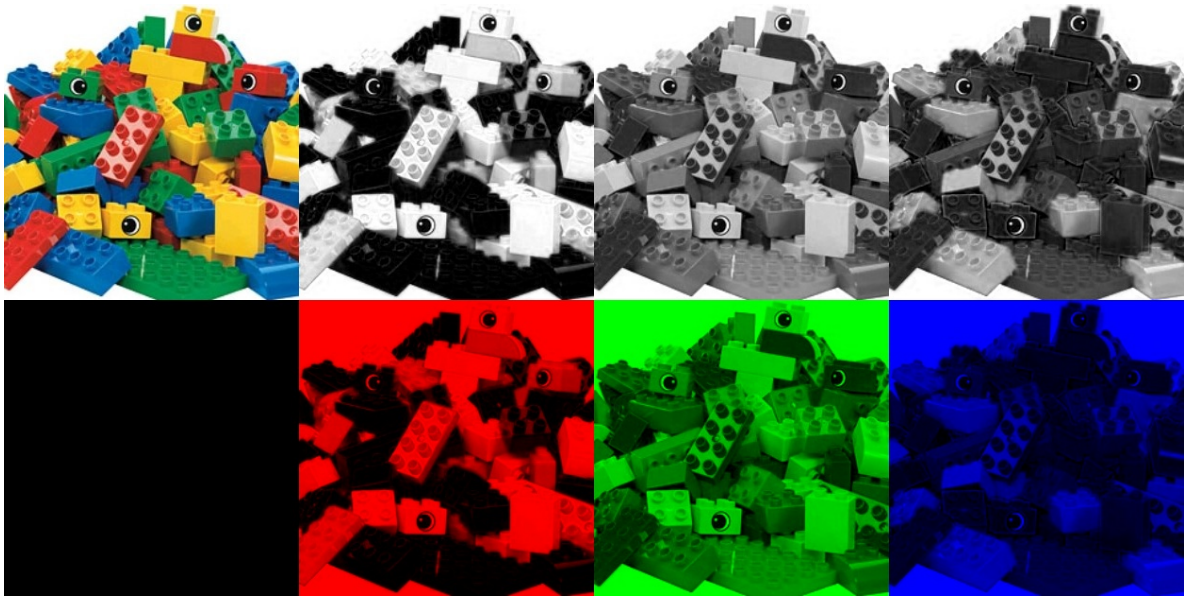
url: https://github.com/edenisova/denisovaea

Задание

Нарисовать на одном изображении исходную картинку и ее разложения на три канала

Результаты



Текст программы

```
#include <opencv2\highgui.hpp>
#include <iostream>

using namespace cv;
using namespace std;

int main() {
    Mat img = imread("../image1.jpg");
    Mat empty_image = Mat::zeros(img.rows, img.cols, CV_8UC1);
    Mat main_img = Mat::zeros(img.rows * 2, img.cols * 4, CV_8UC3);
    vector<Mat> spl;
    split(img, spl);
    img.copyTo(main_img(Rect(0, 0, img.cols, img.rows)));

    Mat result_blue(img.rows, img.cols, CV_8UC3);
    Mat result_green(img.rows, img.cols, CV_8UC3);
    Mat result_red(img.rows, img.cols, CV_8UC3);
    Mat red_channel_res(img.rows, img.cols, CV_8UC3);
```

```
    Mat green_channel_res(img.rows, img.cols, CV_8UC3);
    Mat blue_channel_res(img.rows, img.cols, CV_8UC3);

    Mat red_channel[] = { spl[2], spl[2], spl[2] };
    int from_to1[] = { 0,0, 1,1, 2,2 };
    mixChannels(red_channel, 3, &red_channel_res, 1, from_to1, 3);
    red_channel_res.copyTo(main_img(Rect(img.cols, 0, img.cols, img.rows)));

    Mat green_channel[] = { spl[1], spl[1], spl[1] };
    mixChannels(green_channel, 3, &green_channel_res, 1, from_to1, 3);
    green_channel_res.copyTo(main_img(Rect(img.cols * 2, 0, img.cols,
img.rows)));

    Mat blue_channel[] = { spl[0], spl[0], spl[0] };
    mixChannels(blue_channel, 3, &blue_channel_res, 1, from_to1, 3);
    blue_channel_res.copyTo(main_img(Rect(img.cols * 3, 0, img.cols,
img.rows)));

    Mat in3[] = { empty_image, empty_image, spl[2] };
    mixChannels(in3, 3, &result_red, 1, from_to1, 3);
    result_red.copyTo(main_img(Rect(img.cols, img.rows, img.cols, img.rows)));

    Mat in2[] = { empty_image, spl[1], empty_image };
    mixChannels(in2, 3, &result_green, 1, from_to1, 3);
    result_green.copyTo(main_img(Rect(img.cols * 2, img.rows, img.cols,
img.rows)));

    Mat in1[] = { spl[0], empty_image, empty_image };
    mixChannels(in1, 3, &result_blue, 1, from_to1, 3);
    result_blue.copyTo(main_img(Rect(img.cols * 3, img.rows, img.cols,
img.rows)));

    imshow("res", main_img);
    imwrite("img_res.jpg", main_img);

    waitKey(0);
    return 0;

}
```