

# BÁO CÁO BÀI TẬP 01

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Phần 1: Chuyển ảnh màu sang ảnh xám

Kết quả

- Chạy với blocksize 16 x 16 và 32 x 32:

```
id1612858@9aa3d017fc93: ~/BT01
id1612858@9aa3d017fc93:~/BT01$ ./bt01_p1 in.pnm out.pnm 16 16
Image size (width x height): 512 x 512

Processing time (use host): 1.527808 ms

GPU name: GeForce GTX 1080 Ti
GPU compute capability: 6.1
Processing time (use device): 1.007840 ms

Error between device result and host result: 0.002674
id1612858@9aa3d017fc93:~/BT01$ ./bt01_p1 in.pnm out.pnm 32 32
Image size (width x height): 512 x 512

Processing time (use host): 1.539072 ms

GPU name: GeForce GTX 1080 Ti
GPU compute capability: 6.1
Processing time (use device): 1.067968 ms

Error between device result and host result: 0.002674
id1612858@9aa3d017fc93:~/BT01$
```

- Chạy với blockSize 64 x 64 (lỗi)

```
id1612858@9aa3d017fc93:~/BT01$ ./bt01_p1 in.pnm out.pnm 64 64
Image size (width x height): 512 x 512

Processing time (use host): 1.560576 ms

GPU name: GeForce GTX 1080 Ti
GPU compute capability: 6.1
Sync kernel error: invalid configuration argument
Processing time (use device): 1.039520 ms

Error between device result and host result: 119.969627
id1612858@9aa3d017fc93:~/BT01$
```

## Phần 2: Nhân tích chập ảnh - làm mờ ảnh với filter

### Kết quả

- Chạy với blockSize 16x16

```
idl612858@9aa3d017fc93:~/BT01$ ./bt01_p2 in.pnm out2.pnm out2_target.pnm 16 16
Image size (width x height): 512 x 512

Processing time (use host): 158.745605 ms
Error: 0.000000

GPU name: GeForce GTX 1080 Ti
GPU compute capability: 6.1
Processing time (use device): 3.836320 ms
Error: 0.000703

idl612858@9aa3d017fc93:~/BT01$
```

- Chạy với blockSize 32x32

```
idl612858@9aa3d017fc93:~/BT01$ ./bt01_p2 in.pnm out2.pnm out2_target.pnm 32 32
Image size (width x height): 512 x 512

Processing time (use host): 158.223358 ms
Error: 0.000000

GPU name: GeForce GTX 1080 Ti
GPU compute capability: 6.1
Processing time (use device): 3.717888 ms
Error: 0.000703

idl612858@9aa3d017fc93:~/BT01$
```

- Chạy với blockSize 64x64 (lỗi)

```
idl612858@9aa3d017fc93:~/BT01$ ./bt01_p2 in.pnm out2.pnm out2_target.pnm 64 64
Image size (width x height): 512 x 512

Processing time (use host): 160.339966 ms
Error: 0.000000

GPU name: GeForce GTX 1080 Ti
GPU compute capability: 6.1
Sync kernel error: invalid configuration argument
Processing time (use device): 1.217536 ms
Error: 124.033791

idl612858@9aa3d017fc93:~/BT01$
```