به نام خدا

CA3_Operating Systems

Multithreading

فاطمه شاه حسینی

۱۴۰۱/آذر/۲۵

Time costs in SERIAL form:

```
ubuntu2004@ubuntu2004-VirtualBox:~/Desktop/fatemeh/multithreading/serial$ ./ImageFilters.out input.bmp
reading img: 6
mirror filtering: 82
checkered filtering: 135
diamond filtering: 1
writing img: 7
--total time: 231
```

Hot spots:

- ✓ Checkered filter
- ✓ Horizontal mirror filtering
- ✓ Reading the image and store in memory
- ✓ Write the filtered image in output

Time costs in PARALLEL form:

```
ubuntu2004@ubuntu2004-VirtualBox:~/Desktop/fatemeh/multithreading/parallel$ ./ImageFilters.out input.bmp
reading img: 7
mirror filtering: 57
checkered filtering: 97
diamond filtering: 1
writing img: 9
--total time: 171
```

Input: Output:

Speed up = 231 / 171   = 1.3