

COMP 605 – H.W.1

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Matrix – Vector Multiplication:

Optimization Flags	Time command (sec)	gettimeofday() (sec)	Binary Size (KiB)
No Flag	.01612	.018	8.6
-O1	.00763	.009	8.6
-O2	.00754	.009	8.6
-O3	.00751	.008	8.6

gprof output --

```
[singh@117 hw1]$ gprof ./mat-vec
Flat profile:

Each sample counts as 0.01 seconds.
%   cumulative   self           self       total
time   seconds  seconds    calls   Ts/call  Ts/call  name
100.65      0.01      0.01             1      0.0100  0.0100  main
```

Matrix – Matrix Multiplication:

Optimization Flags	Time command (sec)	gettimeofday() (sec)	Binary Size (KiB)
No Flag	6.115	6.112	8.6
-O1	0.960	0.957	8.6
-O2	0.958	0.964	8.6
-O3	0.950	0.943	8.6

gprof output –

```
[singh@117 hw1]$ gprof ./mat-mat
Flat profile:

Each sample counts as 0.01 seconds.
   %   cumulative   self           self       total
time  seconds  seconds   calls   Ts/call  Ts/call  name
100.55      6.12      6.12           1      6.12    6.12    main
```

Hardware and OS Information:

- a) Intel(R) Xeon Processor E3 v5 Family
- b) Processor No: E3-1240V5
- c) Architecture: x86_64
- d) Base Frequency: 3.50 GHz
- e) RAM: 16 GB
- f) Operating System: Linux -- CentOS – 7
- g) Compiler: gcc (GCC) 4.8.5