

0.1 hardware

Con el objetivo de detallar el hardware usado para la ejecucion del programa se enseña la salida por pantalla del comando "lscpu".

```

> lscpu
Architectura:                x86_64
modo(s) de operación de las CPUs: 32-bit, 64-bit
Address Sizes:              48 bits virtual
Orden de los bytes:        Little Endian
CPU(s):                     16
                          0-15
  Lista de la(s) CPU(s) en línea:
ID de fabricante:          AuthenticAMD
Nombre del modelo:         AMD Ryzen 7 5800H with Radeon Graphics
Familia de CPU:            25
Modelo:                    80
Núcleos de procesamiento por núcleo: 2
  Núcleos(s) por "socket": 8
    "Socket(s)":           1
Revision:                  0
Frequency boost:           enabled
CPU MHz máx.:              4463,0000
CPU MHz mín.:              480,0000
bogoMIPS:                  6389.33
Indicadores:               fpu vme de pse tsc msr pae mce cx8 apic sep mtr prp pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mnxext fxsr_opt pdpebgl rdtscp lm
                          constant tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf rapl pti pte1d_0000 monitor ssos fma cpio sse4_1 sse4_2 movbe popcnt aes xsa
                          ve avx f16c rdrand lahf_lm cmp_legacy svm extapic crp_legacy aom sse4a misalopuse 3dnowprefetch osvw fbs skinit wdt tce tsoptel perfctr_core per
                          fctr_nb bpext perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba ibpb sttpb vmmcall fsgsbase bna1 avx2 smep bmi2 erms invpcid cm rdt
                          rdseed mmp clflushopt clwb aom_nxt avxopwtv xsaveopt xsavec gethrb1 xsavec_cpu l3c cm occup_l3c cm occup_l3c cm mem_total cm mem_lock xacrr
                          iprpf xsaveerptr rdprr wnohinvl cpb arat npt lbrv ave lock arrip save_tsc scale_mvp clean flushbyvoid decodeassistis pausefilter pfthreshold avic v
                          vmsave_unlock vgif v_spec_ctrl umip pku ospke vaes vpclmulqdq rdpid overflow_recov succor secia_firm
Virtualization features:
Virtualización:            AMD-V
Caches (sum of all):
L1d:                       256 KiB (8 instances)
L1i:                       256 KiB (8 instances)
L2:                         4 MiB (8 instances)
L3:                       16 MiB (1 instance)
NUMA:
Modelo(s) NUMA:            1
CPU(s) del modo NUMA 0:   0-15
Vulnerabilities:
ITB multihit:              Not affected
L1tf:                      Not affected
Mds:                      Not affected
Meltdown:                  Not affected
Mmio stale data:           Not affected
Retbleed:                  Not affected
Spec store bypass:         Mitigation: Speculative Store Bypass disabled via prctl
Spectre v1:                 Mitigation: usercopy/swapgs barriers and user pointer sanitization
Spectre v2:                 Mitigation: Retpolines, IBPB conditional, IBRS_FW, STIBP always-on, RSB filling
Srbds:                     Not affected
Tsx async abort:           Not affected

```

Figure 1: Comando lscpu

0.2 software

Con el objetivo de detallar el software usado para la ejecucion del programa se enseña la salida por pantalla del programa "Neofetch":

[illegible]

Figure 2: Comando lscpu

A continuación se muestra la version del compilador c++ usado en este ejercicio:

```
> opera p1_eficiencia.pdf
> g++ --version
g++ (Ubuntu 11.2.0-19ubuntu1) 11.2.0
Copyright (C) 2021 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

~ /Proyectos/Ed/P0 on main ?1 |
```

Figure 3: Comando lscpu