|  |
| --- |
|  |
| **Operating Systems Lab** |
| Lab 1 |

2017-EE-121

2017-EE-124

2017-EE-149



**Submitted by**

**Submitted to:** Nauman Ahmad

Department of Electrical Engineering

**University of Engineering and Technology Lahore**

Contents

[Lab 1: Introduction 3](#_Toc66742324)

[Question 1: /proc filesystem. 3](#_Toc66742325)

[a) Processor and Core: 3](#_Toc66742326)

[b) How many cores? 3](#_Toc66742327)

[c) How many processors? 3](#_Toc66742328)

[d) Frequency of each Processor. 3](#_Toc66742329)

[e) Total Physical Memory. 3](#_Toc66742330)

[f) Free Memory. 4](#_Toc66742331)

[g) Number of Forks since boot. 4](#_Toc66742332)

[h) Context Switches since bootup. 4](#_Toc66742333)

[Question 2: 4](#_Toc66742334)

[i) PID: 4](#_Toc66742335)

[j) CPU and Memory usage. 4](#_Toc66742336)

[k) Current State of Process. 4](#_Toc66742337)

[Question 3: 4](#_Toc66742338)

# Lab 1: Introduction

## Question 1: /proc filesystem.

### Processor and Core:

#### Processor:

A central processing unit (CPU) is the electronic circuitry within a computer that carries out the instructions of a computer program by performing the basic arithmetic, logical, control and input/output (I/O) operations specified by the instructions. Traditionally, the term "CPU" refers to a processor, more specifically to its processing unit and control unit (CU), distinguishing these core elements of a computer from external components such as main memory and I/O circuitry.

#### Core:

A processor core (or simply “core”) is an individual processor within a CPU. Processing performance of computers is increased by using multi-core processors, which essentially is plugging two or more individual processors (called cores in this sense) into one integrated circuit.

### How many cores?

There are 2 cores per processor/CPU.

### How many processors?

There are 2 processors, 0 and 1.

### Frequency of each Processor.

Frequency of each processor is **2904.004 MHZ.**

### Total Physical Memory.

The total available memory is **4803296 kB**. It was found using command, **cat/proc/meminfo**.

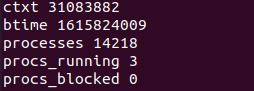
### Free Memory.

The freed memory is **1217500 kB**. It was found using command, **cat/proc/meminfo**.



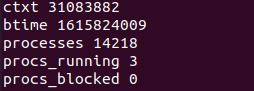
### Number of Forks since boot.

The number of processes that have been created since the last bootup is, processes **14218**. It was found using the command, **cat /proc/stat.**



### Context Switches since bootup.

The number of context switches that the system has performed, since the bootup are, **ctxt 31668818.** It was found using the command, **cat /proc/stat.**



## Question 2:



### PID:

The PID of the process running the cpu command is **14251**.

### CPU and Memory usage.

This process is using **99.7% of CPU** and **0.0% of memory**.

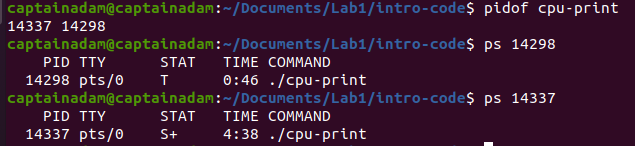
### Current State of Process.

The current state of the process is **Running**.

## Question 3:

### PID:

The PID of process running cpu-print command is **14337**.



### F

