Assignment I_____T I

Following two practical assignments need to be completed as a submission part of T I.

Each consists of 10 marks.

1. Title: Study and experimentation using perf tool to observe different statistics of a program.

Install perf tool in ubuntu linux.

For Debian-based systems use the following command to install ‘perf’: sudo apt-get install linux-tools-common linux-tools-generic linux-tools-`uname -r`.
To get a complete list of PERF commands use “perf –help”.
To obtain list of supported events use command “perf list”.

Classify the events given by perf tool in software and hardware events.

Division I: Software Events and its explanation

Division II: Hardwarre Events and its explanation

2. Title: Write a program to multiply two different matrices of size 1024 x 1024.

We need to consider row-wise as well as column-wise accesses as two different cases of the same program.

Compile and execute it.

Give executable of these two perf tool as follows:

The command “perf stat -e cpu-clock ./matrix_multiply” gives cpu-clock event
Use “perf record -e cpu- clock, faults ./matrix_multiply” to collect profile data
Use “perf stat -e cache-misses ./matrix_multiply” to measure cache misses

One may use tiled approach to divide an entire matrix into sub matrcies for multiplication purpose.

Likewise,

Division I will show software events statistics.

Division II will show hardware events statistics.

References:

1. https://perf.wiki.kernel.org/index.php/Tutorial

2. https://en.wikipedia.org/wiki/Perf_(Linux)