**Manual**

**CPU Benchmark:**

Programming Language: C

The folder consists of all the .c source files and the respective command line arguments syntax are mentioned below

Steps for Execution:

Computing FLOPS and IOPS of the machine

1) Execute file cputhread.c for Linux on the Terminal using” gcc –pthread cputhread.c”

And run the output a.out file using the command “./a.out” .

2) The program will ask for how many thread to be executed for the process ,

Which has to be selected from your choice of 1,2,4.

Let’s consider as user entered 1 i.e. 1 thread

3) Processing starts and you have to wait for it to complete since both the computing of IOPS of the machine and the GFLOPS of the machine will be done and the results printed.

**GPU Benchmark:**

Programming Language: CUDA

The folder consists of all the .cu source files and the respective command line arguments syntax are mentioned below

Steps for Execution:

Computing FLOPS of the machine

1) Execute file gpu.cu for Linux on the Terminal using” nvcc gpu.cu”

And run the output a.out file using the command “./a.out” .

2) Processing starts and you have to wait for it to complete since the computing of GFLOPS of the machine will be done and the results printed.

Computing IOPS of the machine

1) Execute file gpuiops.cu for Linux on the Terminal using” nvcc gpuiops.cu”

And run the output a.out file using the command “./a.out” .

2) Processing starts and you have to wait for it to complete since the computing of GIOPS of the machine will be done and the results printed.

**Memory Benchmark**

Programming Language: C

The folder consists of all the .c source files and the respective command line arguments syntax are mentioned below

Steps for execution

1. Compile the program using the command gcc -pthread memcal.c

2. Run the program with the command with the "./a.out "

3. The program will output values for default no of threads and the memory block size.

4. we have to manually change the number of threads and the memory block size which are defined as macros in order to get the different values .

**Disk**

Programming language: Python

Make sure python intepreter is intalled on your system.

1.Please sure python intepreter is installed on your system.

2.To verfiy python installation use following command to check: which python.

3.Now the get the path where python in installed.

Configure the python script file to run the <filename>.py

1.To run the a python script the first line of the script file must be the path to the python intepreter.

2.This path can be found using the "which python" command.

Execution for single thread programs:

./<filename.py> <record size in bytes>

Example: ./seq\_READWRITE.py 1000

Execution for multithreaded

./<filename.py> <record size in bytes> <number of threads>

Example ./seq\_thread\_READWRITE.py 1000

**Networking**

Programming language: Python

Make sure python intepreter is intalled on your system.

1.Please sure python intepreter is installed on your system.

2.To verfiy python installation use following command to check: which python.

3.Now the get the path where python in installed.

Configure the python script file to run the <filename>.py

1.To run the a python script the first line of the script file must be the path to the python intepreter.

2.This path can be found using the "which python" command.

Steps for execution

1. Port numbers 1914 1915 1916 1917 are used make sure these ports are unused.

2. Open TWO terminals, ONE for the server ONE for the client , navigate to the directory containing the server and client programs.

3. Start the server before running the client in one terminal using the command ./<filename>.py <packetsize> . The packet size must be in bytes

4. Example: ./TCP\_server.py 1000 . here the segment size is 1KB

Segment sizes

1 = 1 byte

1000 = 1 Kilobyte

64000 = 1 KB

For single thread programs use the below syntax

./<filename.py> <segment size>

Example: ./TCP\_server.py 1000

For multihreaded programs use the below syntax to execute use the below syntax

1. ./<file\_name>.py <segment size> <number of threads>

2. example: ./TCP\_thread\_server 1000 2