**HPCToolkit using shell script**

Below are the sample commands to profile an application with HPCToolkit:

Step 1: measure an execution of matrix multiplication

hpcrun -e REALTIME -e IO -t ./matrix

Step 2: compute program structure information

hpcstruct hpctoolkit-matrix-measurements/

Step 3: combine measurement data with program structure information

hpcprof hpctoolkit-matrix-measurements

Step 4: view the kernel-level profile and trace data

hpcviewer hpctoolkit-matrix-database/

Write a shell script to run any executable file with HPCToolkit. The shell script should:

* load the required modules for running HPCToolkit
* Ask the user for a list of events

REALTIME

CPUTIME

perf::CACHE-MISSES

MEMLEAK

IO

* Ask the user to print trace view or not
* Ask the user for the absolute path to the executable file

The user can input more than one event.

Based on the input given by the user, the script should create and run all the commands of HPCToolkit and generate the report.

Add ulimit -s unlimited command before running hpcrun command

At last, open the generated report using the hpcviewer command.

Also, check that the events REALTIME and CPUTIME can’t be input together in one command. HPCToolkit doesn’t allow running CPUTIME and REALTIME together in one command