Irrespective of the project theme, run simulations for 10M with a warmup of 10M instructions.

Archimedes

---

Traces: Take five server traces from https://drive.google.com/file/d/1qs8t8-YWc7lLoYbjbH_d3lf1xdoYBznf/view?usp=sharing

Run IPCP and Bingo with constrained DRAM bandwidth and find out performance, coverage, and accuracy. Find insights: why something is performing poorly. Suggest improvements. Show the effectiveness of your improvements.

The Madlads, High-five, Cache on delivery, The Architects,

---

SPEC 2017 traces from https://hpca23.cse.tamu.edu/champsim-traces/speccpu/index.html that starts with 6XX, especially use mcf, lbm, gcc, cactusbssn, roms, and xalancbmk

Run IPCP prefetcher at L1 and L2 with different cache replacement policies like LRU, SHiP++ and Hawkeye
Available at https://crc2.ece.tamu.edu/?page_id=53

IPCP code is at: https://dpc3.compas.cs.stonybrook.edu/?final_programs

Report their performance, and find out insights as to why something is performing better than others, suggest improvements if any.

Amdahl's Vandals, RISCY V, CAOS, CA-project

---
Implement TAGE and TAGE-L in ChampSim.
https://jilp.org/cbp2016/program.html TAGE code is there for your reference (but not for ChampSim)

Traces: Take five server traces from
https://drive.google.com/file/d/1qs8t8-YWc7lLoYbjbH_d3lf1xdoYBznf/view?usp=sharing

And evaluate performance with TAGE and hashed_perceptron predictor (already there in ChampSim)

Zero Dawn, Sukhibhava, addi x0 x0 0, Pipeline Predators,
---
Take the IPCP code available at
https://dpc3.compas.cs.stonybrook.edu/?final_programs
Look at slide no. 22
https://dpc3.compas.cs.stonybrook.edu/slides/bouquet.pdf
Pick five benchmarks where the performance improvement with IPCP is low. Run them, find out insights, why is it failing, suggest improvements or enhancements to make IPCP better

Pipeliners, Raju Hardware
---
Take the Bingo code available at
https://dpc3.compas.cs.stonybrook.edu/?final_programs
Look at slide no. 22
https://dpc3.compas.cs.stonybrook.edu/slides/bouquet.pdf
Pick five benchmarks where the performance improvement with IPCP is low. Run them with Bingo, find out insights, why is it failing/improving, suggest improvements or enhancements to make Bingo better

Brute-force, RISC Chazers,

---

Ask for the ChampSim code from Prashant,
Ask for five traces with high TLB misses from Prashant
Implement http://www.cs.yale.edu/homes/abhishek/mparasar-isca18.pdf in ChampSim

SHAARK, Arki-tehcs, Imitation Gamers, Hazard Eliminators, CoDecode, Runtime Terror

---

Ask for Graph traces from Prashant
https://users.ece.cmu.edu/~vigneshb/papers/hpca21.pdf Implement this paper on ChampSim. You will find state-of-the-art replacement policies and its code here: https://crc2.ece.tamu.edu/?page_id=53

SNAP-V, Risk-5,

---

Ask for Graph traces from Prashant
Take the IPCP code from
https://dpc3.compas.cs.stonybrook.edu/?final_programs
Find out the limitations of IPCP for Graph benchmarks and suggest enhancements, and quantify

Quick Fix Demons, Baguette

---

Fix a meeting slot with Biswa

Colossus, Atlanna's Quindent

---

Fix a meeting slot with Biswa