Modify the GPGPU-Sim source code to introduce the counters which capture the state of the warp. State of warp ={waiting , Issued, X_{ALU}, X_{MEM}, Other}

The explanation of the states is in Section III-A of "Equalizer: Dynamic Tuning of GPU Resources for Efficient Execution" MICRO-2014 paper.

Plot the Warps state breakdown for each kernel in the Applications/ benchmarks.

Example:

For a given cycle, a specific warp shall be in either of the 5 states.

Simulation time for Application1_Kernel1(App1_K1) is 4 clock cycles and there are 5 warps in the kernel[(Grid Dim * (Block Dim/32)) = 5]; the state of the Warp counters shall capture the states of all the warps throughout the execution.

Cycle #	**1**	**2**	**3**	**4**
Warp 1 State	Issued	X_{MEM}	X_{MEM}	Other
Warp 2 State	waiting	Issued	X_{MEM}	Other
Warp 3 State	waiting	waiting	Issued	X_{ALU}
Warp 4 State	waiting	waiting	waiting	Issued
Warp 5 State	Issued	X_{MEM}	X_{MEM}	Other

Total (waiting=6 , Issued = 5 , X_{ALU} = 1, X_{MEM} = 5, Other = 3)

Plot: