Assignment-4

MultiProcessor Simulator:

This Simulator is written on simple procedural method in c++. For given set of tasks i have created dependency graph for all task.

Assumption: a cyclic task, i.e. once a task finished it will not used cpu again.
Non-preemptive process, once process get into running state leave cpu only after finish.

Initially, I list out all independent task from given txt file, now if number of cores are sufficient to allocate all task i put it on cpu else task are in ready queue.

Those task having dependency of other task are kept into waiting queue, when ever a task finished one or more taske are put into ready queue and used Priority Queue to select task among them.

Observation:

# processor: 2 **# core 0 : 2** **# core 1: 2** CORE UTILIZATION: PROCESSOR NO. 0 CORE NO. 1 : 59.0909% CORE NO. 2 : 13.6364% PROCESSOR NO. 1 CORE NO. 1 : 18.1818% CORE NO. 2 : 31.8182%	**# processor 4** **# core 0 : 4** **# core 1 : 4** **# core 2: 4** **# core 3 : 4** CORE UTILIZATION: PROCESSOR NO. 0 CORE NO. 1 : 18.1818% CORE NO. 2 : 31.8182% CORE NO. 3 : 9.09091% CORE NO. 4 : 13.6364% PROCESSOR NO. 1 CORE NO. 1 : 0% CORE NO. 2 : 0%

	CORE NO. 3 : 27.2727% CORE NO. 4 : 22.7273% PROCESSOR NO. 2 CORE NO. 1 : 0% CORE NO. 2 : 0% CORE NO. 3 : 0% CORE NO. 4 : 0% PROCESSOR NO. 3 CORE NO. 1 : 0% CORE NO. 2 : 0% CORE NO. 3 : 0% CORE NO. 4 : 0%