**Week3 assignments**

1. "Instruction execution throughput increases in proportion with the number of pipeline stages". Is it true? Justify your statement.
2. Consider the execution of a program of 20000 instructions by a linear pipeline processor with a clock rate 40 MHz . Assume that the instruction pipeline has five stages and that one instruction is used per clock cycle. The penalties due to branch instructions and out-of-order executions are ignored. Calculate the speed-up of the pipeline over its equivalent non-pipeline processor, the efficiency and throughput.
3. what will be the speed up for a 4 segment linear pipeline when the number of instruction n=64?