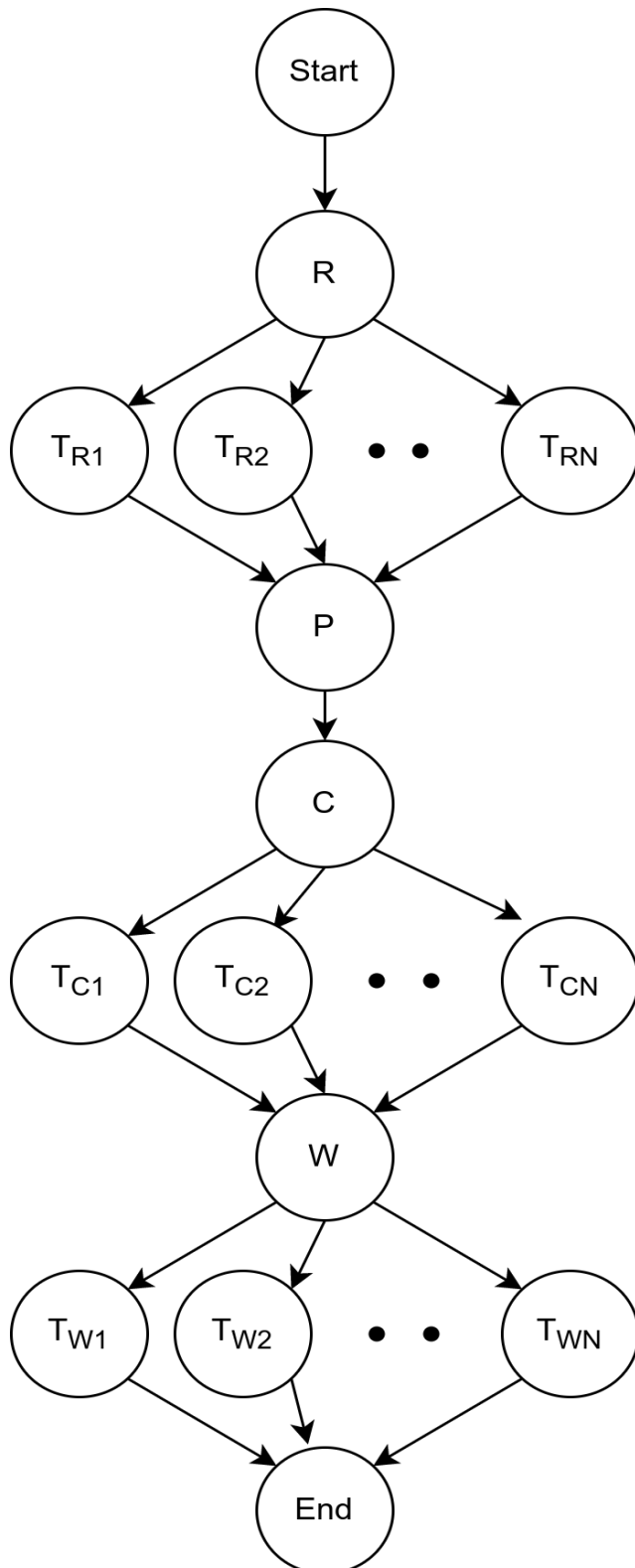


**COL380: Assignment 1**  
Ishita Chaudhary, 2019CS10360

The figure below depicts the task graph for the final approach described in *readme.txt*. Each task in the task graph is described as follows:



R : Reading input, *readData()*

P : Preprocessing, *completeData()*

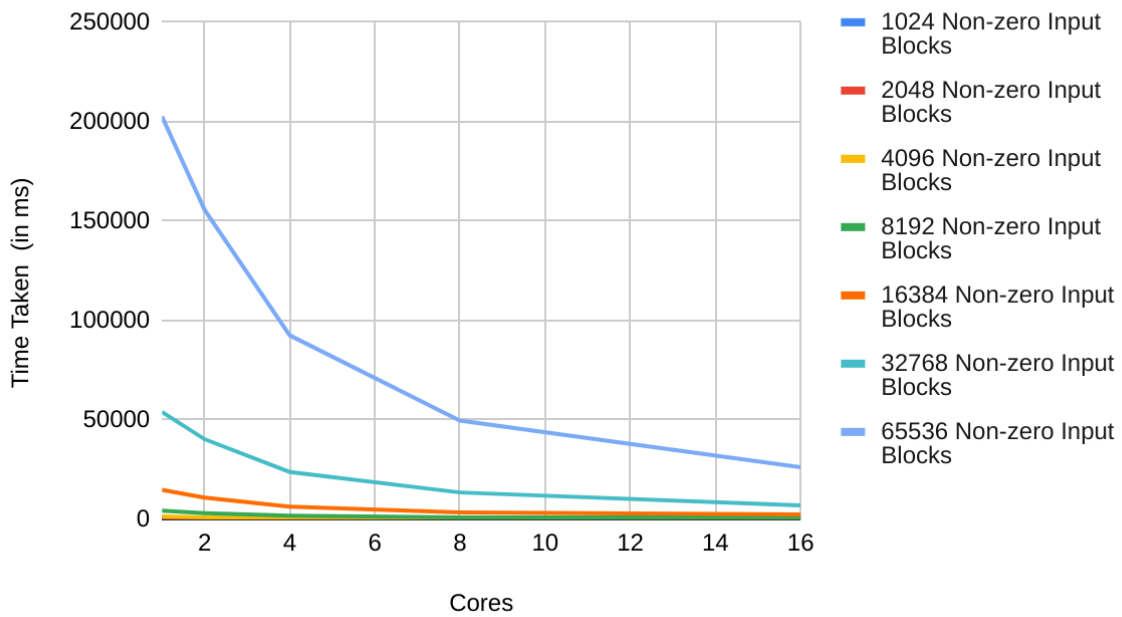
C : Calculating result,  
*calculateResultEfficient()*

W : Writing output, *readData()*

N : Number of threads

$T_{XY}$  : Task number Y for X

Time Taken (in ms) vs. No. of Cores



The graph above visualizes how the time taken by the program is dependent on the number of cores, where each line graph represents constant data, in which the number of non-zero input blocks is varied from  $2^{10}$  (=1024) to  $2^{16}$  (=65536).