CMSE/CSE 822: Parallel Computing
Fall 2019, Homework 1
Due 11:59 pm, Friday, September 13th

1) If you have not done so already, make sure to log in to MSU's Gitlab system using your MSU NetID credentials: https://gitlab.msu.edu/landing/

   This is required for accessing and submitting your homework assignments. By signing in, you will have activated your MSU GitLab account, and we will be able to add you to the class related groups and repositories.

2) Please go over the HPCC tutorial (available under the Content/Reference Material section). If you have any questions, feel free to ask during this week's lectures.
   - **Note 1:** You may want to go over a Unix tutorial first (see links provided in Lecture 1 slides) first, if you have not used Unix before.
   - **Note 2:** It may take a while for your HPCC accounts to be active. Please be patient and do not send any email regarding this matter as this will not expedite things for you.

3) Read the "Simulation-Based Engineering for Industrial Competitive Advantage" article in the Computing in Science & Engineering Journal by Loren Miller.

   - Write your review and reflections about the article (*about 0.5 pages using single space 11 pt fonts with 1 inch margins, maximum length 0.75 pages*). Your essay should contain discussions on the following:
     o A summary of the Goodyear-Sandia success story,
     o What have been the main contributors to the success of the Goodyear-Sandia partnership?
     o What were the main challenges that were overcome?
     o What is the main message of this story for the US industry and government today?

   - Do your own research and explain the following terms: Finite element method, mesh generation, verification and validation, petaflops, exascale computing.

Submit your homework to the CMSE 822 GitLab repository (by following the HW Submission Instructions which can be found under the Reference Material section in D2L).