CS410 Final Project Proposal
Applying BERT on Facebook Children's Book Test

1. **What are the names and NetIDs of all your team members? Who is the captain? The captain will have more administrative duties than team members.**
   Captain: tiehchu2 (Tieh Chu)
   Team members: evanluo2 (Evan Luo), chiachi5 (Chia-Chi, Chen)

2. **What is your free topic? Please give a detailed description. What is the task? Why is it important or interesting? What is your planned approach? What tools, systems, or datasets are involved? What is the expected outcome? How are you going to evaluate your work?**
   Topic: Applying BERT on Facebook Children's Book Test
   Description: Our task is to apply BERT on Facebook Children's Book Test Dataset. In the dataset, each question is constructed by taking 20 consecutive sentences from the book text and leaving the 21st as the query statement. A word from the query is selected and masked, and the model is tasked with selecting which word from the text (of the chosen type) should be used to fill this placeholder in the query.
   Why this task: After taking the course, we find that there are unlimited possibilities to utilize machines to understand text content though it is still a challenging task. Therefore, we decided to apply the state-of-the-art BERT model to run on Facebook Children's Book Test Dataset in order to learn more about how it works while examining the best performance we can achieve.
   Planned Approach: Apply a language understanding model to evaluate the short story given, based on the story the model should be able to understand the query and select the right word to fit in.
   Tools, Systems, Dataset: BERT, Pytorch, Facebook Children's Book Test (CBT)
   Expected Outcome: We want to measure how well language models can exploit wider linguistic context and ultimately create a model that is capable of answering a query based on a short story.
   Evaluation: Calculate the accuracy rate for the prediction from our model.

3. **Which programming language do you plan to use?**
   We plan to use Python to implement our project.

4. **Please justify that the workload of your topic is at least 20*N hours, N being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.**
   We expect the workload to be distributed as follows:
   Parse and clean raw data: 10 hrs
   Train and tune BERT model: 20 hrs
   Children's Boot Test answering model implementation: 20 hrs
   Fine-tune and demonstration: 10 hrs