**Question 1:**

Push and Pull can be used in group chat applications.

When a message is posted in the group, it is “pushed” to all the members (devices) of the group. At the same time, when a member refreshes a feed on device, it pulls all the messages that are sent to groups for which the member is a participant

**Question 2:**

In databases B+ trees are used to store more than two nodes of a parent. This helps, for example, in storing more than 2 files at a folder. As this data structure gives most suitable hierarchical structure to maintain the systematic file-hierarchy, it is most appropriate.

**Question 3:**

In terms of university, visitor pattern can be used to track the wage earnings of part time students. This will have a separate visitor class to track the details such as SSN. On the other hand, the SSN itself is a member of student details class.

Second, Budget Estimation for the university can be a visitor class. In this case, the core class will calculate historical data and the visitor class uses this data just to make various predictions that vary by usage. For example, demand-supply predictions, Consumables predictions etc.

<https://piazza.com/class/kag08ysqodc4du?cid=556>