Title: Exploring the Architectural Design of Popular Websites

This is a group assignment; groupings are based on your Final Project.

Description:

In this assignment, you will delve into the architectural design of popular websites to gain a deeper understanding of the technologies and strategies they employ to handle user traffic, provide a seamless user experience, and ensure high availability. You will analyze the architecture of three well-known websites and provide insights into their key architectural components and principles.

Objectives:

1. Gain insights into the architecture of popular websites.

2. Analyze the key architectural components and strategies used for scalability, performance, and reliability.

3. Develop critical thinking skills by evaluating the pros and cons of each architectural choice.

4. Enhance your understanding of web development concepts and technologies.

Instructions:

Part 1: Select Three Popular Websites

Choose three popular websites or web applications that you find interesting. These websites should have a significant user base and be known for their reliability and performance. You may select websites from different domains (e.g., e-commerce, social media, news, entertainment) to gain a broad perspective on architectural diversity.

Part 2: Research and Analysis

For each of the three websites selected, perform the following tasks:

1. Website Overview: Provide a brief overview of the website, its primary purpose, and its user base. Include relevant statistics such as daily active users, page views, or any other metrics that demonstrate its popularity.

2. Architectural Components: Describe the key architectural components used in the website's design. This should include but is not limited to:

   - Front-end technologies (HTML, CSS, JavaScript frameworks)

   - Back-end technologies (programming languages, databases)

   - Database architectures (e.g., relational, NoSQL)

3. Pros and Cons (3 points): Evaluate the strengths and weaknesses of the architectural choices made by each website. Consider factors like ease of maintenance, cost-effectiveness, and adaptability to changing user demands.

Part 3: Report Submission

Compile your findings into a well-structured report. Each analysis of a website should be presented separately, with clear headings and subheadings. Use diagrams, flowcharts, or any other visual aids to illustrate key architectural concepts where necessary.

Important Note:

Ensure that you properly cite your sources and provide references for any information or data you use in your report. Plagiarism will result in a deduction of points.

Due Date:

Present your completed assignment on your lab sked next week.