Project Title: Cloud Technology Assessment for Enterprise Transformation

Project group size should be no more than 4 persons (1 person groups are NOT allowed). Groups should select one person to do the final submission on myElearning. This submission should also include on the names and UWI IDs of all the group members.

Choose one of the following cloud computing topics:

1. **Serverless Computing:** Allows developers to run code without worrying about server management.
2. **Containerization and Orchestration (e.g., Docker, Kubernetes):** Helps in deploying and managing applications consistently across various environments.
3. **DevOps Tools on Cloud:** Tools for automating and optimizing the software development and delivery pipeline.
4. **Microservices Architecture:** Designing applications as a collection of loosely coupled services.
5. **Serverless Databases:** Databases that automatically scale and don't require manual management of infrastructure.
6. **Content Delivery Networks (CDN):** Distributes content geographically to reduce latency and improve load times.
7. **API Management on Cloud:** Helps in creating, publishing, and managing APIs in a scalable and secure manner.
8. **Cloud-Native Development:** Building and deploying applications specifically designed for cloud environments.
9. **Cloud Storage Services (e.g., Amazon S3, Google Cloud Storage):** Secure and scalable storage solutions.
10. **Identity and Access Management (IAM):** Managing access to cloud resources and ensuring security.
11. **Monitoring and Logging Services:** Tools to monitor and analyze the performance and health of cloud applications.
12. **Networking on Cloud:** Virtual networks, load balancing, and other networking services in the cloud.
13. **Serverless Orchestration:** Coordinating the execution of multiple serverless functions.
14. **Cost Management Tools:** Tools to monitor and optimize cloud costs.
15. **Collaboration and Communication Tools on Cloud:** Cloud-based solutions for team collaboration and communication.

16. **Backup and Disaster Recovery Services:** Ensuring data protection and business continuity in the cloud.
17. **Compliance and Governance on Cloud:** Tools and services for meeting regulatory requirements and enforcing governance policies.
18. **Application Performance Management (APM):** Monitoring and managing the performance of applications in the cloud.
19. **AI Services (excluding machine learning):** Services like natural language processing, computer vision, etc., that don't fall under machine learning.
20. **Mobile Backend as a Service (MBaaS):** Cloud services that provide backend infrastructure for mobile applications.

Objective: The objective of this student group project is to conduct a comprehensive assessment of various cloud technologies and their potential impact on enterprise transformation. The focus will be on exploring the capabilities and benefits of different cloud technologies without the actual implementation. The goal is to provide insights and recommendations for leveraging cloud technologies in an enterprise context.

Project Components:

1. **Technology Landscape Analysis:**
    - Explore and analyze the landscape of cloud technologies, emphasizing those mentioned earlier.
    - Provide an overview of each technology's features, use cases, and potential benefits.
2. **Use Case Scenarios:**
    - Develop hypothetical use case scenarios where each technology could be applied for enterprise transformation.
    - Highlight the specific challenges each technology can address in a business context.
3. **Integration Strategies:**
    - Investigate potential strategies for integrating multiple cloud technologies cohesively.
    - Discuss how these integrations could enhance overall enterprise capabilities.
4. **Security and Compliance Frameworks:**
    - Examine the security and compliance aspects of the chosen cloud technologies.
    - Provide recommendations on ensuring data security and compliance with industry standards.
5. **Cost Analysis:**

- Perform a cost analysis for adopting various cloud technologies without actual implementation.
- Discuss potential cost-saving measures and optimization strategies.

6. **Scalability and Flexibility Assessment:**
    - Evaluate the scalability and flexibility offered by each technology.
    - Discuss how these attributes can contribute to adapting to changing business needs.

Deliverables: Prepare a report and a no more than 10 minute video presentation on the topic chosen.

1. **Project Report:**
    - Executive Summary: A high-level overview of the cloud technologies assessed and their potential impact on enterprise transformation.
    - Technology Landscape Analysis: Detailed insights into each cloud technology, including features, use cases, and benefits.
    - Use Case Scenarios: Development of hypothetical scenarios illustrating the application of each technology in an enterprise setting.
    - Integration Strategies: Recommendations on how different cloud technologies can be integrated to enhance overall enterprise capabilities.
    - Security and Compliance Frameworks: Analysis of security and compliance considerations for each technology.
    - Cost Analysis: Evaluation of the potential costs associated with adopting the assessed cloud technologies, along with cost-saving measures.
    - Scalability and Flexibility Assessment: Examination of the scalability and flexibility offered by each technology and how it aligns with enterprise needs.
2. **Presentation:**
    - Each student group will present key findings, emphasizing the strategic potential of cloud technologies for enterprise transformation.
    - The presentation should include visual aids to support the analysis and recommendations.

This project will require students to delve into the theoretical aspects of cloud technologies and critically assess their potential impact on enterprise transformation without actually implementing the solutions. The focus will be on

strategic thinking, analysis, and effective communication of findings in the form of a comprehensive report and presentation.

Cloud Technology Assessment for Enterprise Transformation - Marking Scheme

1. **Executive Summary (10 points):**
   - Concise overview of the project.
   - Clearly articulates the significance of cloud technologies in enterprise transformation.
2. **Technology Landscape Analysis (20 points):**
   - Thorough analysis of each cloud technology.
   - Clear presentation of features, use cases, and potential benefits.
   - Comprehensive coverage of the chosen technologies.
3. **Use Case Scenarios (15 points):**
   - Well-developed hypothetical use case scenarios.
   - Demonstrates understanding of how each technology can address specific business challenges.
   - Realistic and relevant application scenarios.
4. **Integration Strategies (15 points):**
   - Insightful recommendations on integrating multiple cloud technologies.
   - Clear understanding of how integrations contribute to overall enterprise capabilities.
   - Consideration of potential challenges and mitigations.
5. **Security and Compliance Frameworks (15 points):**
   - Thorough examination of security and compliance considerations.
   - Clear recommendations on ensuring data security and compliance with industry standards.
   - Demonstration of awareness of potential risks and suggested risk mitigation strategies.
6. **Cost Analysis (15 points):**
   - Detailed cost analysis for adopting various cloud technologies.
   - Consideration of cost-saving measures and optimization strategies.
   - Awareness of potential budget implications.
7. **Scalability and Flexibility Assessment (15 points):**
   - Evaluation of the scalability and flexibility offered by each technology.
   - Insight into how these attributes align with enterprise needs.
   - Consideration of adaptability to changing business requirements.
8. **Presentation (10 points):**
   - Clarity and professionalism in presenting key findings.
   - Effective use of visual aids to support the analysis and recommendations.

- Engaging and clear communication of the strategic potential of cloud technologies.

9. Overall Structure and Cohesiveness (10 points):

- Logical flow and organization of the report.
- Cohesive connection between different sections.
- Adherence to project guidelines and objectives.

10. Critical Analysis and Originality (10 points):

- Depth of critical analysis in discussing the potential impact of cloud technologies.
- Originality and innovative thinking in recommendations and insights.

Total: 140 points

Group and topic allocation. At the start of the semester students should form their groups and choose their respective topic. They should also put a second choice topic. They should send their member list including the group leader and chosen topics to the Tutor. The Tutor will review the topics and indicate if the group needs additional topic selection. This is to ensure that the number of topics are balanced among the groups and that no one topic will be oversubscribed.

Project submission must be accompanied by a single Turnitin report showing the detailed breakdown of the % comparisons with other sources. In addition, tools will be used to detect the use of ChatGPT or similar language chatbot models and if used for any part of the project or its entirety the group will be given a score of zero.

The final presentation will be in PowerPoint format and may include snippets from your final document and video submissions.

Marks will be awarded as follows:
Report – 15%
Presentation – 15%