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CST2213 BUSINESS INTELLIGENCE

PROGRAMMING-2 ADVANCE CONCEPTS

**Final Project**

**Guidelines for Selecting a Project in Business Intelligence Advanced Programming in Python**

1. Understand the Scope of Business Intelligence

* Ensure your project aligns with fundamental Business Intelligence (BI) principles.
* Focus on advanced Python programming, with an emphasis on software development, predictive analytics, or the automation of BI processes.

2. Identify a Relevant and Real-World Problem

* Choose a business challenge that can be effectively addressed through data-driven decision-making.
* Alternatively, select a software development project that addresses a real-world problem and aligns with BI objectives.

3. Define Clear Objectives

* Establish precise project goals to maintain clarity and direction.
* Align your objectives with business requirements to generate actionable insights.

4. Select a Suitable Dataset or Software Development Proposal

* Utilize publicly available datasets or real-world business data.
* Ensure the dataset contains sufficient features and high-quality data for meaningful analysis.
* Recommended sources include Kaggle, UCI Machine Learning Repository, government portals, and corporate databases.

5. Leverage Python for Data Processing, Analysis, or Software Development

* Implement data collection, cleaning, and transformation using Python libraries such as Pandas and NumPy.
* Employ data visualization tools to enhance interpretability.
* Utilize automation techniques through Python scripting to improve efficiency.

6. Incorporate Machine Learning and Predictive Analytics

* Where applicable, develop predictive models using libraries such as Scikit-learn.

7. Develop Data Visualization and Dashboards

* Utilize Power BI or Python-based tools such as Dash and Streamlit.
* Create interactive dashboards to effectively communicate insights.

8. Enhance Performance and Scalability

* Optimize query execution and script performance to ensure efficiency and scalability.

9. Validate and Interpret Results

* Conduct rigorous model evaluations using accuracy metrics.
* Ensure insights are interpretable and provide tangible value for decision-makers.

10. Document and Present Findings

* Develop a structured report outlining problem definition, methodology, findings, and recommendations.
* Deliver a concise five-minute presentation utilizing visualization and storytelling techniques for effective communication.
* Maintain comprehensive code documentation and comments to facilitate reproducibility.

Final Tip: Keep the project scope manageable within the given time and resources. Choose a topic that aligns with your interests while providing meaningful business insights.