# MATH319

College of Computer
كلية الحاسب
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Qassim University
جامعة القصيم

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| **Assessment type** | **Group assignment (At least 3 students and at most 5 students); Plagiarism check is applied and must not exceed 20%.** |
| **Due date** | **Thursday 7 Novermber 2024 (through the Blackboard platform)** |
| **Weighting** | **20 Marks (Contributes 20% of the total assignment grade).** |
| **Document Format** | **Double spacing, a 12-point Times New Roman font.** |

➢ **The objective of the assignment is to develop practical skills in implementing AES cryptosystem to enhance data privacy in real-world applications.**

**Question:** Choose one of the following projects and implement the required functions using **Python** programming language. Describe your approach, the challenges faced, and how you ensured the privacy and usability of the application in your report.

### 1- Secure File Storage

**Functions:**

- User Interface
- User Authentication
- File Upload
- AES Encryption
- Retrieval and Decryption

### 2- Encrypted Cloud-Based Data Backup

**Functions:**

- User Interface
- User Authentication
- AES Encryption
- Cloud Integration
- Retrieval and Decryption

### 3- Secure Messaging Application

**Functions:**

- User Interface
- User Authentication
- AES Encryption
- End-to-End Security
- Retrieval and Decryption

### 4- Secure Photo Gallery Application

**Functions:**

- User Interface
- User Authentication
- Photo Upload
- AES Encryption
- Retrieval and Decryption

- **Marks distribution**

| Criteria | Mark |
|---|---|
| **Implementation** | **10** |
| **Report (Including the overview description of the project, functions and their integrations)** | **7** |
| **Presentation** | **3** |
| **Total** | **20** |