1. **HEADER**

**INFORMATION SYSTEMS AND DATABASES – GROUP ASSIGNMENT**

**Group Number**: 23

**Member Student Numbers and names:**

Muhamad Juma Ghanim Usman -32146989

Mohammed Mahim- 32147387

Mohammad Afnan- 32146984

Mohammed Ashfaq- 32147008

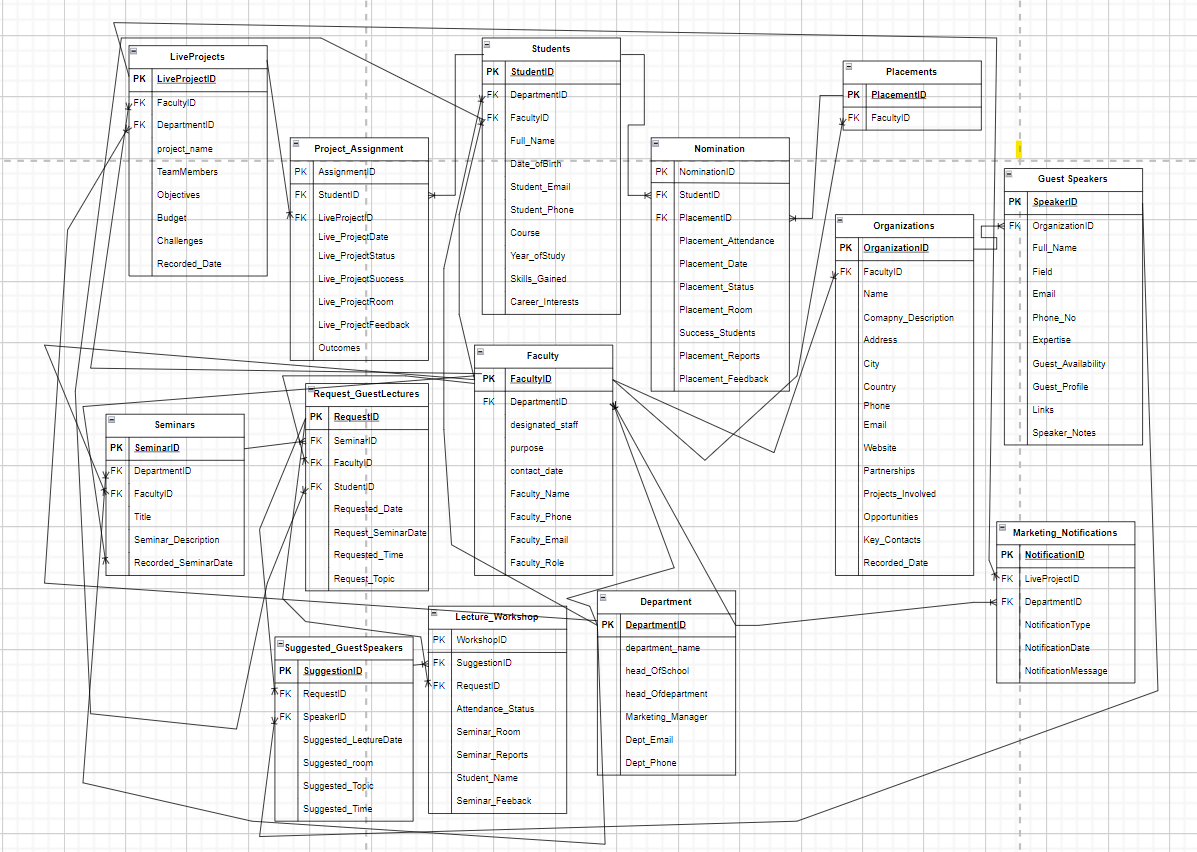
Fathima Fida -32147016

Thaspeeha Vahithu- 32146925

**Oracle APEX account containing the database scripts:** Workspace name: HARDWORKTHAS, Username: [thas9fam4.com@gmail.com](mailto:thas9fam4.com@gmail.com), Password: cam.4.872@

**2)ASSUMPTIONS/BUSINESS RULES:**

1. Each student must be assigned a unique student ID upon enrollment.
2. Only authorized staff members can access and modify student records, including personal details, academic history, and attendance data.
3. External speakers or organizations must be approved and registered in the database before they can conduct guest lectures or provide placements.
4. Faculty members can schedule guest lectures, workshops, or events using available rooms and resources through the timetabling system.
5. Students must register for courses within specified registration periods and meet prerequisites for enrollment.
6. Placement opportunities offered by organizations must be vetted and approved by the placement officer before being advertised to students.
7. Faculty members are responsible for accurately recording student attendance for classes, workshops, and other academic activities.
8. Any changes or updates to student records, course information, or faculty details must be logged and audited for accountability and transparency.
9. The database system must have backup and recovery mechanisms in place to protect against data loss or corruption.
10. Reports generated from the database, such as attendance reports, placement outcomes, and etc, must be accurate, reliable, and accessible to authorized stakeholders.
11. **ER DIAGRAM:**



**4) ENTITY SPECIFICATION FORMS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Organizations**  Entity Description: It stores the information of different Organizations | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and any other relevant info** |
| organizationID | NUMBER(4) | pk |  | 3201 |
| facultyID | NUMBER(3) | fk |  | 104 |
| company\_name | VARCHAR2(19) | nn |  | **AI Innovations Ltd.** |
| company\_description | VARCHAR2(127) | nn |  | Leading AI solutions provider, specializing in machine learning, natural language processing, and computer vision technologies. |
| address | VARCHAR2(39) | nn |  | 123 Innovation Avenue, Tech Park, 12345 |
| city | VARCHAR2(9) | nn |  | Cityville |
| country | VARCHAR2(11) | nn |  | Countryland |
| phone | NUMBER(11) | nn |  | 10870787773 |
| email | VARCHAR2(22) | nn |  | info@aiinnovations.com |
| website | VARCHAR2(21) | nn |  | [www.aiinnovations.com](http://www.aiinnovations.com/) |
| partnerships | VARCHAR2(21) | nn |  | Microsoft and Google. |
| projects\_involved | VARCHAR2(118) | nn |  | * Developing AI-powered chatbots for customer support in the retail sector and implementing computer vision solutions. |
| opportunities | VARCHAR2(70) | nn |  | Fields such as IT and healthcare for permanent and contract positions. |
| key\_contacts | VARCHAR2(43) | nn |  | John Doe (CEO) - john.doe@aiinnovations.com |
| recorded\_date | DATE | nn |  | 2-FEB-2024 |

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| ENTITY TYPE: **Faculty**  Entity Description: It stores the information of faculty | | | | |
| **Attribute** | **Data Type and width** | **Status\*** | **Validation** | **Example of input any other relevant info** |
| facultyID | NUMBER(3) | pk |  | 104 |
| departmentID | NUMBER(2) | fk |  | 98 |
| designated\_staff | VARCHAR(10) | nn |  | Hans Jo |
| faculty\_name | VARCHAR(14) | nn |  | Dr. A. Johnson |
| faculty\_phone | NUMBER(11) | nn |  | 1888999444 |
| faculty\_email | VARCHAR(23) | nn |  | ajohnson@university.edu |
| faculty\_role | VARCHAR(2) | nn  I | Input Limited to  P(Professor)  R(Researcher)  L(Lecturer)  SD(Staff Dean) | SD |

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| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Placements**  Entity Description: It stores the information of placements and it’s designated staff of the organization. | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input any other relevant info** |
| placementID | NUMBER(2) | pk |  | 11 |
| facultyID | NUMBER(3) | fk |  | 104 |

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| ENTITY TYPE: R**equest\_GuestLectures**  Entity Description: It stores the information of staff requesting for a guest speaker on a particular topic. | | | | |
| **Attribute** | **Date type and width** | **Status\*** | **Validation** | **Example of input and any other relevant info** |
| requestID | NUMBER(2) | pk |  | 64 |
| seminarID | NUMBER(1) | fk |  | 1 |
| facultyID | NUMBER(3) | fk |  | 104 |
| studentID | NUMBER(5) | fk |  | 45679 |
| requested\_date | DATE | nn |  | 17-APR-2024 |
| request\_seminardate | DATE | nn |  | 19-APR-2024 |
| requested\_time | VARCHAR2(4) | nn |  | 8 am |
| request\_topic | VARCHAR2(40) | nn |  | Introduction to Artificial Intelligence |

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| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Seminars**  Entity Description: It stores the information of different seminars | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and relevant info** |
| seminarID | NUMBER(1) | pk |  | 1 |
| departmentID | NUMBER(2) | fk |  | 98 |
| facultyID | NUMBER(3) | fk |  | 104 |
| title | VARCHAR2(39) | nn |  | Introduction to Artificial Intelligence |
| seminar\_description | VARCHAR2(34) | nn |  | Machine Learning and maths In AI. |
| recorded\_seminardate | DATE | nn |  | 19-APR-2024 |

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| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Department**  Entity Description: It stores the information on the university departments. | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and relevant info** |
| departmentID | NUMBER(2) | pk |  | 98 |
| department\_name | VARCHAR2(17) | nn |  | Head of Computing |
| head\_ofschool | VARCHAR2(13) | nn |  | George Thomas |
| head\_ofdepartment | VARCHAR2(11) | nn |  | Oliver Hans |
| marketing\_manager | VARCHAR2(10) | nn |  | Jeff Evans |
| dept\_email | VARCHAR2(27) | nn |  | 98HeadofComputing@gmail.com |
| dept\_phone | NUMBER(10) | nn |  | 4000344567 |

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| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Suggested\_GuestSpeakers**  Entity Description: It stores the information of suggested guest speakers | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and any other relevant info** |
| suggestionID | NUMBER(2) | pk |  | 52 |
| requestID | NUMBER(2) | fk |  | 64 |
| speakerID | NUMBER(3) | fk |  | 198 |
| suggested\_lecturedate | DATE | nn |  | 19-APR-2024 |
| suggested\_room | VARCHAR2(24) | nn |  | Lecture Hall 8, Block F2 |
| suggested\_topic | VARCHAR2(40) | nn |  | Introduction to Artificial Intelligence |
| suggested\_time | VARCHAR2(4) | nn |  | 8 am |

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| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Lecture\_Workshop**  Entity Description: It stores the information on seminar attended by students,speakers,etc | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and any relevant info** |
| workshopID | NUMBER(2) | pk |  | 85 |
| suggestionID | NUMBER(2) | fk |  | 52 |
| requestID | NUMBER(2) | fk |  | 14 |
| attendance\_status | NUMBER(3) | nn |  | 108 |
| attendance\_date | DATE | nn |  | 19-APR-2024 |
| seminar\_room | VARCHAR2(24) | nn |  | Lecture Hall 8, Block F2 |
| seminar\_reports | VARCHAR2(151) | nn |  | **Faculty Profiles, Research and Publications and Professional Networks and Student Feedback and School's Partnerships and Faculty Awards or recognition.** |
| student\_name | VARCHAR2(15) | nn |  | **Safras Ibrahim** |
| seminar\_feedback | VARCHAR2(35) | nn |  | It was the best seminar I heard. |

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| ENTITY NAME: **Marketing\_Notifications**  Entity Description: It stores the information of notifications for marketing and let’s know the marketing manager | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and any other relevant info** |
| notificationID | NUMBER(2) | pk |  | 17 |
| live\_projectID | NUMBER(5) | fk |  | 20001 |
| departmentID | NUMBER(2) | fk |  | 98 |
| notification\_type | VARCHAR2(3) | nn  I | Input Limited To  SMS  E (Email)  DEM (Desktop Messages) | DEM |
| notification\_date | DATE | nn |  | 11-APR-2024 |
| notification\_message | VARCHAR2(255) | nn |  | We are pleased to inform you that the latest update for our live project has been successfully deployed to production. This update includes several new features, enhancements, and bug fixes based on user feedback and continuous testing. |

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| --- | --- | --- | --- | --- | --- |
| Entity Name: **LiveProjects**  Entity Description: Stores information about live projects | | | | | |
| **Attribute** | **Data type and width** | **Status** | **Validation** | **Example of input and relevant info** | |
| live\_projectID | NUMBER(5) | pk |  | 20001 | |
| facultyID | VARCHAR2(3) | fk |  | 104 | |
| departmentID | NUMBER(2) | fk |  | 98 | |
| project \_name | VARCHAR2(9) | nn |  | Local Link | |
| team\_members | VARCHAR2(26) | nn |  | Sai, John, Oliver, Stilton | |
| objectives | VARCHAR2(33) | nn |  | Relevant, Understanding of Basics | |
| budget | NUMBER(6) | nn |  | 100000 | |
| challenges | VARCHAR2(46) | nn |  | Team Skills, Working of machines in real life. | |
| recorded\_date | DATE | nn |  | 8-JUN-2024 | |
| Entity Name: **Students**  **E**ntity Description: Stores information about students | | | | |
| **Attribute** | **Data type and width** | **Status** | **Validation** | **Example of input and relevant info** |
| studentID | NUMBER(5) | pk |  | 45679 |
| departmentID | NUMBER(2) | fk |  | 98 |
| facultyID | NUMBER(3) | fk |  | 104 |
| full\_name | VARCHAR2(13) | nn |  | Safras Ibrahim |
| date\_ofbirth | DATE | nn |  | 26-NOV-07 |
| student\_email | VARCHAR2(16) | nn |  | Saf456@gmail.com |
| student\_phone | NUMBER(10) | nn |  | 0534578601 |
| course | VARCHAR2(15) | nn |  | Computer Science |
| year\_ofstudy | VARCHAR2(9) | nn |  | 2023-2027 |
| skills\_gained | VARCHAR2(46) | nn |  | Problem solving, Critical thinking, Coding,etc |
| career\_interests | VARCHAR2(146) | nn |  | * Advance Technical Expertise in Machine Learning, Publish in Leading AI Journals and Conferences, Develop Interdisciplinary Collaboration Skills. |

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| --- | --- | --- | --- | --- |
| Entity Name: **Project\_Assignment**  Entity Description: It stores the information about student live projects status and outcomes | | | | |
| **Attribute** | **Data type and width** | **Status** | **Validation** | **Example input and relevant info** |
| assignmentID | NUMBER(2) | pk |  | 24 |
| studentID | NUMBER(5) | fk |  | 45679 |
| live\_projectID | NUMBER(5) | fk |  | 20001 |
| live\_projectdate | DATE | nn |  | 8-JUN-24 |
| live\_projectstatus | VARCHAR2(9) | nn |  | Completed |
| live\_projectsuccess | VARCHAR2(2) | nn | Input Limited to  NM(notify manager if completed)  FL (fail if not completed) | NM |
| live\_projectroom | VARCHAR2(24) | nn |  | Lecture hall-10,  Block C6 |
| live\_projectfeedback | VARCHAR2(7) | nn  I | Input Limited To  SS (Success)  FL (Fail) | SS |
| outcomes | VARCHAR2(49) | nn |  | Made us to understand the fundamentals and basics. |

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| --- | --- | --- | --- | --- |
| Entity Name: **Nomination**  Entity Description: Stores information of attendance and feedback of students. | | | | |
| **Attribute** | **Data type and width** | **Status** | **Validation** | **Relevant info** |
| nominationID | NUMBER(2) | pk |  | 89 |
| studentID | NUMBER(5) | fk |  | 45679 |
| placementID | NUMBER(2) | fk |  | 11 |
| placement\_attendance | VARCHAR2(7) | nn |  | Present |
| placement\_date | DATE | nn |  | 23-JUL-24 |
| placement\_status | VARCHAR2(9) | nn |  | Completed |
| placement\_room | VARCHAR2(23) | nn |  | Lecture Hall-9,  Block F1 |
| success\_students | VARCHAR2(41) | nn |  | Achievers invited to talk for student cohort. |
| placement\_reports | VARCHAR2(139) | nn |  | **Faculty Profiles, Research and Publications, Professional Networks, Student Feedback, School's Partnerships, Faculty Awards and Recognition** |
| placement\_feedback | VARCHAR2(2) | nn  I | Input limited to  SS (Success)  FL (Fail) | SS |

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| --- | --- | --- | --- | --- |
| ENTITY TYPE: **Guest\_Speakers**  Entity Descritption: It stores complete profile of guest speakers | | | | |
| **Attribute** | **Data type and width** | **Status\*** | **Validation** | **Example of input and relevant info** |
| speakerID | NUMBER(3) | pk |  | 198 |
| organizationID | NUMBER(4) | fk |  | 3201 |
| full\_name | VARCHAR2(14) | nn |  | Dr.Sophia Chen |
| field | VARCHAR2(16) | nn |  | Machine Learning |
| email | VARCHAR2(27) | nn |  | sophia.chen@aiexpertise.com |
| phone\_no | NUMBER(12) | nn |  | 443330008970 |
| expertise | VARCHAR2(20) | nn |  | AI, Machine Learning |
| guest\_availability | VARCHAR2(8) | nn |  | 7am-10pm |
| guest\_profile | VARCHAR2(89) | nn |  | Ph.D. in CS, Stanford University  M.S. in AI, (MIT)  B.S. in Computer Science, (CAMBRIDGE) |
| links | VARCHAR2(130) | nn |  | Advancements in Deep Learning Architectures for Image Classification- Published in the Journal of Machine Learning Research. |
| speaker\_notes | VARCHAR2(40) | nn |  | Best to learn Machine Learning |

**5) SQL TABLE CREATION SCRIPTS**

CREATE TABLE Organizations (

    organizationID NUMBER(4) PRIMARY KEY,

    facultyID NUMBER(3) CONSTRAINT fk\_Organizations\_facultyID foreign key (facultyid) REFERENCES Faculty (facultyID),

    company\_name VARCHAR2(19) NOT NULL,

    company\_description VARCHAR2(127) NOT NULL,

    address VARCHAR2(39) NOT NULL,

    city VARCHAR2(9) NOT NULL,

    country VARCHAR2(11) NOT NULL,

    phone NUMBER(11) NOT NULL,

    email VARCHAR2(22) NOT NULL,

    website VARCHAR2(21) NOT NULL,

    partnerships VARCHAR2(21) NOT NULL,

    projects\_involved VARCHAR2(118) NOT NULL,

    opportunities VARCHAR2(70) NOT NULL,

    key\_contacts VARCHAR2(43) NOT NULL,

    recorded\_date DATE NOT NULL

);

CREATE TABLE Department (

    departmentID NUMBER(2) PRIMARY KEY,

    department\_name VARCHAR2(17) NOT NULL,

    head\_ofschool VARCHAR2(13) NOT NULL,

    head\_ofdepartment VARCHAR2(11) NOT NULL,

    marketing\_manager VARCHAR2(10) NOT NULL,

    dept\_email VARCHAR2(27) NOT NULL,

    dept\_phone NUMBER(10) NOT NULL

);

CREATE TABLE Faculty (

    facultyID NUMBER(3) PRIMARY KEY,

    departmentID NUMBER(2) CONSTRAINT fk\_Faculty\_departmentID foreign key (departmentID) REFERENCES Department(departmentID),

    designated\_staff VARCHAR2(20) NOT NULL,

    purpose VARCHAR2(30) NOT NULL,

    contact\_date DATE NOT NULL,

    faculty\_name VARCHAR2(14) NOT NULL,

    faculty\_phone NUMBER(11) NOT NULL,

    faculty\_email VARCHAR2(23) NOT NULL,

    faculty\_role VARCHAR2(2) CONSTRAINT ck\_Faculty\_faculty\_role CHECK (faculty\_role IN ('P', 'R', 'L', 'SD')) NOT NULL

);

CREATE TABLE Students (

    studentID NUMBER(5) PRIMARY KEY,

    departmentID NUMBER(2) CONSTRAINT fk\_Students\_departmentID foreign key (departmentid) REFERENCES Department (departmentID),

    facultyID NUMBER(2) CONSTRAINT fk\_Students\_facultyID foreign key (facultyid) REFERENCES Faculty (facultyID),

    full\_name VARCHAR2(100) NOT NULL,

    date\_ofbirth DATE NOT NULL,

    student\_email VARCHAR2(16) NOT NULL,

    student\_phone NUMBER(10) NOT NULL,

    course VARCHAR2(15) NOT NULL,

    year\_ofstudy VARCHAR2(9) NOT NULL,

    skills\_gained VARCHAR2(46) NOT NULL,

    career\_interests VARCHAR2(146) NOT NULL

);

CREATE TABLE Placements (

    placementID NUMBER(2) PRIMARY KEY,

    facultyID NUMBER(3) CONSTRAINT fk\_Placements\_facultyID foreign key (facultyid) REFERENCES Faculty (facultyID)

);

CREATE TABLE Nomination (

    nominationID NUMBER(2) PRIMARY KEY,

    studentID NUMBER(5) CONSTRAINT fk\_Nomination\_studentID foreign key (studentid) REFERENCES Students (studentID),

    placementID NUMBER(2) CONSTRAINT fk\_Nomination\_placementID foreign key (placementid) REFERENCES Placements (placementID),

    placement\_attendance VARCHAR2(7),

    placement\_date DATE NOT NULL,

    placement\_status VARCHAR2(9) NOT NULL,

    placement\_room VARCHAR2(23) NOT NULL,

    success\_students VARCHAR2(41) NOT NULL,

    placement\_reports VARCHAR2(139) NOT NULL,

    placement\_feedback VARCHAR2(2) CONSTRAINT ck\_Nomination\_placement\_feedback CHECK (placement\_feedback IN ('SS', 'FL'))

);

CREATE TABLE LiveProjects (

    live\_projectID NUMBER(5) PRIMARY KEY,

    facultyID NUMBER(3) CONSTRAINT fk\_LiveProjects\_facultyID foreign key (facultyid) REFERENCES Faculty (facultyID),

    departmentID NUMBER(2) CONSTRAINT fk\_LiveProjects\_departmentID foreign key (departmentid)  REFERENCES Department (departmentID),

    project\_name VARCHAR2(100) NOT NULL,

    team\_members VARCHAR2(100) NOT NULL,

    objectives VARCHAR2(33) NOT NULL,

    budget VARCHAR2(6) NOT NULL,

    challenges VARCHAR2(46) NOT NULL,

    recorded\_date DATE NOT NULL

);

CREATE TABLE Project\_Assignment (

    assignmentID NUMBER(2) PRIMARY KEY,

    studentID NUMBER(5) CONSTRAINT fk\_Project\_Assignment\_studentID foreign key (studentid) REFERENCES Students (studentID),

    live\_projectID NUMBER(5) CONSTRAINT fk\_Project\_Assignment\_live\_projectID foreign key ( live\_projectID) REFERENCES LiveProjects (live\_projectID),

    live\_projectdate DATE NOT NULL,

    live\_projectstatus VARCHAR2(9) NOT NULL,

    live\_projectsuccess VARCHAR2(14) CONSTRAINT ck\_Project\_Assignment\_live\_projectsuccess CHECK (live\_projectsuccess IN ('NM', 'FL')),

    live\_projectroom VARCHAR2(24) NOT NULL,

    live\_projectfeedback VARCHAR2(7) CONSTRAINT ck\_Project\_Assignment\_live\_projectfeedback CHECK (live\_projectfeedback IN ('SS', 'FL')),

    outcomes VARCHAR2(49) NOT NULL

);

CREATE TABLE Guest\_Speakers (

    speakerID NUMBER(3) PRIMARY KEY,

    organizationID NUMBER(4) CONSTRAINT fk\_Guest\_Speakers\_organizationID foreign key (organisationid) REFERENCES Organizations (organizationID),

    full\_name VARCHAR2(14) NOT NULL,

    field VARCHAR2(16) NOT NULL,

    email VARCHAR2(27) NOT NULL,

    phone\_no NUMBER(12) NOT NULL,

    expertise VARCHAR2(20) NOT NULL,

    guest\_availability VARCHAR2(8) NOT NULL,

    guest\_profile VARCHAR2(89) NOT NULL,

    links VARCHAR2(130) NOT NULL,

    speaker\_notes VARCHAR2(40) NOT NULL

);

CREATE TABLE Seminars (

    seminarID NUMBER(1) PRIMARY KEY,

    facultyID NUMBER(3) CONSTRAINT fk\_Seminars\_facultyID foreign key (facultyid) REFERENCES Faculty (facultyID),

    departmentID NUMBER(2) CONSTRAINT fk\_Seminars\_departmentID foreign key (departmentid) REFERENCES Department (departmentID),

    title VARCHAR2(39) NOT NULL,

    seminar\_description VARCHAR2(34) NOT NULL,

    recorded\_seminardate DATE NOT NULL

);

CREATE TABLE Marketing\_Notifications (

    notificationID NUMBER(2) PRIMARY KEY,

    live\_projectID NUMBER(5) CONSTRAINT fk\_Marketing\_Notifications\_live\_projectID foreign key ( live\_projectID) REFERENCES LiveProjects (live\_projectID),

    departmentID NUMBER(2) CONSTRAINT fk\_Marketing\_Notifications\_departmentID foreign key (departmentid) REFERENCES Department (departmentID),

    notification\_type VARCHAR2(3) CONSTRAINT ck\_Marketing\_Notifications\_notification\_type CHECK (notification\_type IN ('SMS', 'E', 'DEM')),

    notification\_date DATE NOT NULL,

    notification\_message VARCHAR2(255) NOT NULL

);

CREATE TABLE Request\_GuestLectures (

    requestID NUMBER(2) PRIMARY KEY,

    seminarID NUMBER(2) CONSTRAINT fk\_Request\_GuestLectures\_seminarID  foreign key (seminarid) REFERENCES Seminars (seminarID),

    facultyID NUMBER(3) CONSTRAINT fk\_Request\_GuestLectures\_facultyID  foreign key (facultyid) REFERENCES Faculty (facultyID),

    studentID NUMBER(5) CONSTRAINT fk\_Request\_GuestLectures\_studentID  foreig key (studentid) REFERENCES Students (studentID),

    requested\_date DATE NOT NULL,

    request\_seminardate DATE NOT NULL,

    requested\_time VARCHAR2(4) NOT NULL,

    request\_topic VARCHAR2(40) NOT NULL

);

CREATE TABLE Suggested\_GuestSpeakers (

    suggestionID NUMBER(2) PRIMARY KEY,

    requestID NUMBER(2) CONSTRAINT fk\_Suggested\_GuestSpeakers\_requestID  foreign key (requestid) REFERENCES Request\_GuestLectures(requestID),

    speakerID NUMBER(3) CONSTRAINT fk\_Suggested\_GuestSpeakers\_speakerID  foreign key (speakerid) REFERENCES Guest\_Speakers(speakerID),

    suggested\_room VARCHAR2(24) NOT NULL,

    suggested\_lecturedate DATE NOT NULL,

    suggested\_topic VARCHAR2(40) NOT NULL,

    suggested\_time VARCHAR2(4) NOT NULL

);

CREATE TABLE Lecture\_Workshop (

    workshopID NUMBER(2) PRIMARY KEY,

    suggestionID NUMBER(2) CONSTRAINT fk\_Lecture\_Workshop\_suggestionID  foreign key (suggestionid) REFERENCES Suggested\_GuestSpeakers (suggestionID),

    requestID NUMBER(2) CONSTRAINT fk\_Lecture\_Workshop\_requestID foreign key (requestid) REFERENCES Request\_GuestLectures (requestID),

    attendance\_status NUMBER(3) NOT NULL,

    attendance\_date DATE NOT NULL,

    seminar\_room VARCHAR2(24) NOT NULL,

    seminar\_reports VARCHAR2(151) NOT NULL,

    student\_name VARCHAR2(15) NOT NULL,

    seminar\_feedback VARCHAR2(35) NOT NULL

6) **SAMPLE DATA**

INSERT ALL

  INSERT INTO Department VALUES (98, 'Head of Computing', 'George Thomas', 'Oliver Hans', 'Jeff Evans', '98HeadofComputing@gmail.com', 4000344567);

  INSERT INTO Department VALUES (99, 'Head of Cultural', 'George Thomas', 'Jack Bob', 'Jeff Evans', '98HeadOfCultural@gmail.com', 4456783945);

  INSERT INTO Department VALUES (77, 'Head of Cyber', 'George Thomas', 'Zack Orji', 'Jeff Evans', '98HeadofCyber@gmail.com', 4999266781);

  INSERT INTO Department VALUES (78, 'Head of Neural', 'George Thomas', 'Zach Bo', 'Jeff Evans', '98HeadofNeural@gmail.com', 4673456258);

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Faculty VALUES (104, 98, 'Hans Jo', 'For a seminar', TO\_DATE('17-04-2024', 'DD-MM-YYYY'), 'Dr. A. Johnson', 10889994445, 'ajohnson@university.edu', 'S');

  INSERT INTO Faculty VALUES (105, 99, 'Louise Bo', 'placement', TO\_DATE('20-04-2024', 'DD-MM-YYYY'), 'Dr. Clark', 10998675850, 'clark@university.edu', 'R');

  INSERT INTO Faculty VALUES (106, 77, 'Boris Hoff', 'For a seminar', TO\_DATE('28-06-2024', 'DD-MM-YYYY'), 'Dr. Jo Cruz', 10456893218, 'jo@university.edu', 'L');

  INSERT INTO Faculty VALUES (107, 78, 'Johnson', 'For a seminar', TO\_DATE('04-03-2024', 'DD-MM-YYYY'), 'Dr. Steve Bob', 10392378098, 'steve@university.edu', 'P');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Organizations VALUES (3201, 104, 'AI Innovations Ltd.', 'Leading AI solutions provider, specializing in machine learning, natural language processing, and computer vision technologies.', '123 Innovation Avenue, Tech Park, 12345', 'Cityville', 'Countryland', 10870787773, 'info@aiinnovations.com', 'www.aiinnovations.com', 'Microsoft and Google.', 'Developing AI-powered chatbots for customer support in the retail sector and implementing computer vision solutions.', 'Fields such as IT and healthcare for permanent and contract positions.', 'John Doe (CEO) - john.doe@aiinnovations.com', TO\_DATE('02-02-2024', 'DD-MM-YYYY'));

  INSERT INTO Organizations VALUES (3202, 105, 'UK Talent Connect', 'A premier recruitment agency specializing in connecting skilled professionals with top companies across various industries.', '123 Business Park Lane, W2A 1AA', 'London', 'UK', 10870789994, 'info@uktalent.com', 'www.novawork.com', 'Tech Innovate Ltd.', 'Software engineers in a project for a fintech startup', 'Fields such as IT and healthcare for permanent and contract positions.', 'Mark Rob (Manager) - mark.rob@uktalent.com', TO\_DATE('03-03-2024', 'DD-MM-YYYY'));

  INSERT INTO Organizations VALUES (3203, 106, 'TalentLink UK', 'A leading placement agency connecting skilled professionals with job opportunities in various industries.', '123 Talent Avenue, W1A 2CC', 'Oxford', 'UK', 10891890005, 'info@talentlin.co.uk', 'www.talentlink.co.uk', 'Machine Learning Ltd', 'Assisting finance professionals in securing roles in banking and financial services.', 'Arranging internships for students or recent graduates.', 'Emily Jes (Coordinator) - emily.jes@.co.uk', TO\_DATE('04-03-2024', 'DD-MM-YYYY'));

  INSERT INTO Organizations VALUES (3204, 107, 'TalSpot UK', 'Offer personalized recruitment services, counseling, and training programs to help candidates succeed in their careers.', '456 Opportunity Street, EC1A 1AB', 'Oxford', 'UK', 10347455777, 'info@talspotuk.com', 'www.talspotuk.com', 'IBM', 'Placing IT professionals in software development roles', 'Permanent position for professionals seeking long-term career growth.', 'Jessica (Manager) - jessica@talspotuk.com', TO\_DATE('07-09-2024', 'DD-MM-YYYY'));

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Students VALUES (45679, 98, 104, 'Safras Ibrahim', TO\_DATE('26-11-2007', 'DD-MM-YYYY'), 'Saf456@gmail.com', 534578601, 'Computer Science', '2023-2027', 'Problem solving, Critical thinking, Coding', 'Advance Technical Expertise in Machine Learning, Publish in Leading AI Journals and Conferences, Develop Interdisciplinary Collaboration Skills');

  INSERT INTO Students VALUES (45680, 99, 105, 'Muhammed Jin', TO\_DATE('27-02-2007', 'DD-MM-YYYY'), 'Jin66@gmail.com', 567892145, 'Cyber Security', '2024-2028', 'Leadership, Active listening skills', 'Intern at a company you admire, Earn promotions');

  INSERT INTO Students VALUES (45681, 77, 106, 'Muhammed Ada', TO\_DATE('28-01-2007', 'DD-MM-YYYY'), 'Ada78@gmail.com', 578986512, 'Data Analyst', '2024-2028', 'Negotiation, Problem solving', 'Build your network, Earn a certification, Get a professional degree');

  INSERT INTO Students VALUES (45682, 78, 107, 'Muhammed Isa', TO\_DATE('29-03-2007', 'DD-MM-YYYY'), 'Isa44@gmail.com', 569774356, 'Algorithm', '2024-2028', 'Time Management, Speaking Skills', 'Save Money, Become an expert, Start a business');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Placements VALUES (11, 104);

  INSERT INTO Placements VALUES (12, 105);

  INSERT INTO Placements VALUES (13, 106);

  INSERT INTO Placements VALUES (14, 107);

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Nomination VALUES (89, 45679, 11, 'present', TO\_DATE('23-07-2024', 'DD-MM-YYYY'), 'Completed', 'Lecture Hall-9, Block F1', 'Achievers invited to talk for student cohort', 'Faculty Profiles, Research and Publications, Professional Networks, Student Feedback, School''s Partnerships, Faculty Awards and Recognition', 'SS');

  INSERT INTO Nomination VALUES (90, 45680, 12, 'present', TO\_DATE('24-07-2024', 'DD-MM-YYYY'), 'Completed', 'Lecture Hall-9,Block F4', 'Achievers invited to talk for student cohort', 'Faculty Profiles, Research and Publications, Professional Networks, Student Feedback, School''s Partnerships, Faculty Awards and Recognition', 'SS');

  INSERT INTO Nomination VALUES (91, 45681, 13, 'present', TO\_DATE('25-07-2024', 'DD-MM-YYYY'), 'Completed', 'Lecture Hall-9, Block F1', 'Achievers invited to talk for student cohort', 'Faculty Profiles, Research and Publications, Professional Networks, Student Feedback, School''s Partnerships', 'SS');

  INSERT INTO Nomination VALUES (92, 45682, 14, 'present', TO\_DATE('26-07-2024', 'DD-MM-YYYY'), 'Completed', 'Lecture Hall-9, Block F1', 'Achievers invited to talk for student cohort', 'Faculty Profiles, Research and Publications, Professional Networks, Student Feedback, School''s Partnerships', 'SS');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO LiveProjects VALUES (20001, 104, 98, 'Local Link', 'Sai, John, Olive, Stilton', 'Relevant, Understanding of basics', 100000, 'Team Skills, Working of machines in real life', TO\_DATE('8-06-2024', 'DD-MM-YYYY'));

  INSERT INTO LiveProjects VALUES (20002, 105, 99, 'Unity Hub', 'Joy, Raya, Sunny, Hans', 'Achievable, Time Bound', 100001, 'Team Skills', TO\_DATE('15-07-2024', 'DD-MM-YYYY'));

  INSERT INTO LiveProjects VALUES (20003, 106, 77, 'IT', 'Ada, Jace, Hazel, Ben', 'Should be time bound', 100002, 'Team Skills', TO\_DATE('16-07-2024', 'DD-MM-YYYY'));

  INSERT INTO LiveProjects VALUES (20004, 107, 78, 'Arts', 'Amy, Luca, Alice, Matt', 'Achievable', 100003, 'Team Skills', TO\_DATE('17-07-2024', 'DD-MM-YYYY'));

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Project\_Assignment VALUES (24, 45679, 20001, TO\_DATE('8-06-2024', 'DD-MM-YYYY'), 'Completed', 'NM', 'Lecture hall-10 Block C6', 'SS', 'Made us understand the fundamentals and basics');

  INSERT INTO Project\_Assignment VALUES (25, 45680, 20002, TO\_DATE('15-07-2024', 'DD-MM-YYYY'), 'Completed', 'NM', 'Lecture hall-10 Block B10', 'SS', 'Made us understand the fundamentals and basics');

  INSERT INTO Project\_Assignment VALUES (26, 45681, 20003, TO\_DATE('16-07-2024', 'DD-MM-YYYY'), 'Completed', 'NM', 'Lecture hall-10 Block H7', 'SS', 'Made us understand the fundamentals and basics');

  INSERT INTO Project\_Assignment VALUES (27, 45682, 20004, TO\_DATE('17-07-2024', 'DD-MM-YYYY'), 'Completed', 'NM', 'Lecture hall-10 Block B11', 'SS', 'Made us understand the fundamentals and basics');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Guest\_Speakers VALUES (198, 3201, 'Dr. Sophia Chen', 'Machine Learning', 'sophia.chen@aiexpertise.com', 443330008970, 'AI, Machine Learning', '7am-10pm', 'Ph.D. in CS, Stanford University, M.S. in AI, (MIT) B.S. in Computer Science, (CAMBRIDGE)', 'Advancements in Deep Learning Architectures for Image Classification - Published in the Journal of Machine Learning Research', 'Best to learn Machine Learning');

  INSERT INTO Guest\_Speakers VALUES (199, 3202, 'Dr. Jess Jo', 'Diversity', 'jess.jo@cul.com', 449991119081, 'Cyber', '9am-10am', 'Ph.D. in Diversity (CAMBRIDGE)', 'Cultural Diversity: A Primer for the Human Services by Jerry V. Diller', 'Best to learn diversity');

  INSERT INTO Guest\_Speakers VALUES (200, 3203, 'Dr. Sara Cruz', 'Cybersecurity', 'saracru@cul.com', 558882220192, 'Cultural', '7am-8am', 'Ph.D. in Cyber', 'Cybersecurity Essentials by Charles J. Brooks', 'Best to learn cyber');

  INSERT INTO Guest\_Speakers VALUES (201, 3204, 'Dr. Lily Vhen', 'Pattern', 'lily@pa.com', 449772228695, 'Neural', '6am-8am', 'PH.D. in Artificial Networks Pattern Recognition', 'Neural Networks for Pattern Recognition by Christopher M. Bishop', 'Best to learn patterns');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Seminars VALUES (1, 104, 98, 'Introduction to Artificial Intelligence', 'Machine Learning and maths In AI.', TO\_DATE('19-04-2024', 'DD-MM-YYYY'));

  INSERT INTO Seminars VALUES (2, 105, 99, 'Cultural Diversity in Global Business', 'Impact of cultural difference', TO\_DATE('22-04-2024', 'DD-MM-YYYY'));

  INSERT INTO Seminars VALUES (3, 106, 77, 'Cybersecurity Trends and Threats', 'Threats Brief', TO\_DATE('30-06-2024', 'DD-MM-YYYY'));

  INSERT INTO Seminars VALUES (4, 107, 78, 'Artificial Networks Pattern Recognition', 'Neural Pattern', TO\_DATE('16-03-2024', 'DD-MM-YYYY'));

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Marketing\_Notifications VALUES (17, 20001, 98, 'DEM', TO\_DATE('11-04-2024', 'DD-MM-YYYY'), 'We are pleased to inform you that the latest update for our live project has been successfully deployed to production. This update includes several new features, enhancements, and bug fixes based on user feedback and continuous testing.');

  INSERT INTO Marketing\_Notifications VALUES (18, 20002, 99, 'SMS', TO\_DATE('19-07-2024', 'DD-MM-YYYY'), 'We are pleased to inform you that the latest update for our live project has been successfully deployed to production and several new features, enhancements, and bug fixes based on user feedback and continuous testing.');

  INSERT INTO Marketing\_Notifications VALUES (19, 20003, 77, 'EM', TO\_DATE('20-11-2024', 'DD-MM-YYYY'), 'We are pleased to inform you that the latest update for our live project has been successfully deployed to production and several new features, enhancements, and bug fixes based on user feedback and continuous testing.');

  INSERT INTO Marketing\_Notifications VALUES (20, 20004, 78, 'SMS', TO\_DATE('14-12-2024', 'DD-MM-YYYY'), 'We are pleased to inform you that the latest update for our live project has been successfully deployed to production and several new features, enhancements, and bug fixes based on user feedback and continuous testing.');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Request\_GuestLectures VALUES (64, 1, 104, 45679, TO\_DATE('17-04-2024', 'DD-MM-YYYY'), TO\_DATE('19-04-2024', 'DD-MM-YYYY'), '8 am', 'Introduction to Artificial Intelligence');

  INSERT INTO Request\_GuestLectures VALUES (65, 2, 105, 45680, TO\_DATE('20-04-2024', 'DD-MM-YYYY'), TO\_DATE('22-04-2024', 'DD-MM-YYYY'), '9 am', 'Cultural Diversity in Global Business');

  INSERT INTO Request\_GuestLectures VALUES (66, 3, 106, 45681, TO\_DATE('28-06-2024', 'DD-MM-YYYY'), TO\_DATE('30-06-2024', 'DD-MM-YYYY'), '7 am', 'Cybersecurity Trends and Threats');

  INSERT INTO Request\_GuestLectures VALUES (67, 4, 107, 45682, TO\_DATE('14-03-2024', 'DD-MM-YYYY'), TO\_DATE('16-03-2024', 'DD-MM-YYYY'), '6 am', 'Artificial Networks Pattern Recognition');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Suggested\_GuestSpeakers VALUES (52, 64, 198, TO\_DATE('19-04-2024', 'DD-MM-YYYY'), ‘Building 4', 'Introduction to Artificial Intelligence', '8 am');

  INSERT INTO Suggested\_GuestSpeakers VALUES (53, 65, 199, TO\_DATE('22-04-2024', 'DD-MM-YYYY'), 'Building 5', 'Cultural Diversity in Global Business', '9 am');

  INSERT INTO Suggested\_GuestSpeakers VALUES (54, 66, 200, TO\_DATE('30-06-2024', 'DD-MM-YYYY'), 'Building 7', 'Cybersecurity Trends and Threats', '7 am');

  INSERT INTO Suggested\_GuestSpeakers VALUES (55, 67, 201, TO\_DATE('16-03-2024', 'DD-MM-YYYY'), 'Building 10', 'Artificial Networks Pattern Recognition', '6 am');

SELECT \* FROM DUAL;

INSERT ALL

  INSERT INTO Lecture\_Workshop VALUES (85, 52, 64, 108, TO\_DATE('16-04-2024', 'DD-MM-YYYY'), 'Lecture Hall 8, Block F2', 'Faculty Profiles, Research and Publications, Professional Networks, Student Feedback, Faculty Awards and Recognition', 'Safras Ibrahim', 'It was the best seminar I heard.');

  INSERT INTO Lecture\_Workshop VALUES (86, 53, 65, 100, TO\_DATE('18-04-2024', 'DD-MM-YYYY'), 'Lecture Hall 9, Block F1', 'It’s most popular talk’, 'Muhammed Jin', 'Not bad');

  INSERT INTO Lecture\_Workshop VALUES (87, 54, 66, 111, TO\_DATE(‘13-06-2024', 'DD-MM-YYYY'), 'Lecture Hall 6, Block A2', 'Interesting and beneficial', 'Muhammed Ada', 'Excellent and interesting');

  INSERT INTO Lecture\_Workshop VALUES (88, 55, 67, 101, TO\_DATE('7-03-2024', 'DD-MM-YYYY'), 'Lecture Hall 3, Block A9', 'Intriguing talk', 'Muhammed Isa', 'Bad not interesting.');

SELECT \* FROM DUAL;

8) **BRIEF OVERVIEW OF DATABASE SECURITY:**

1. **Encryption:** Encryption techniques are used to protect sensitive data both at rest (stored data) and in transit (data being transmitted over networks).
2. **Database Firewall:** A database firewall is a security tool that monitors and filters incoming and outgoing traffic to and from the database, applying security policies to prevent unauthorized access, SQL injection attacks, malware infections, and other threats.

**9)SUGGESTION FOR OTHER DATABASE TECHNOLOGY/INFO SYSTEM:**

**1.Centralized Data Repository:** A data warehouse would serve as a centralized repository for storing structured and organized data from various sources within the organization, including student information, course data, faculty details, attendance records, and performance metrics.

**2.Data Integration and Transformation:** The data warehouse would facilitate the integration of data from disparate sources, such as student management systems, learning management systems, HR databases, and financial.

10) **EVIDENCE OF CONTRIBUTIONS**

Sprint Backlog 1 uploaded date 5/5/24

Sprint Backlog 2 uploaded date 5/5/24

Sprint Backlog 3 uploaded date 5/5/24

Minutes of Meeting week 8 27/3/24 uploaded on 27/3/24

Minutes of Meeting week 9 1/4/24 uploaded on 1/4/24

Minutes of Meeting week 10 25/4/24 uploaded on 5/5/24

Minutes of Meeting week 11 1/5/24 uploaded on 5/5/24

Minutes of Meeting week 12 1/5/24 uploaded on 5/5/24