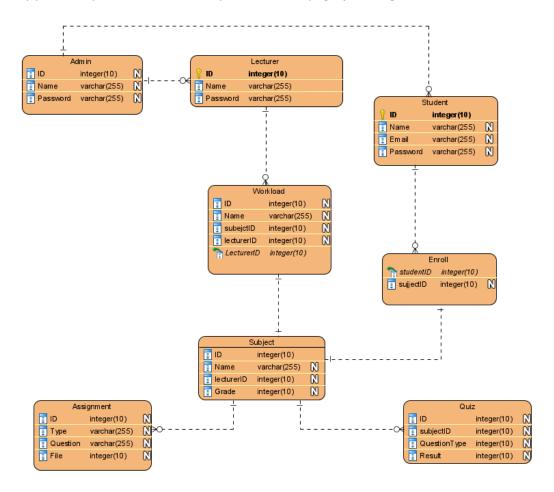# Database Normalization

ERD(first draft)

[Grab your reader's attention with a great quote from the document or use this space to emphasize a key point. To place this text box anywhere on the page, just drag it.]

Admin
ID	integer(10)	N
Name	varchar(255)	N
Password	varchar(255)	N

Lecturer
ID	integer(10)	
Name	varchar(255)	
Password	varchar(255)	

Student
ID	integer(10)	
Name	varchar(255)	N
Email	varchar(255)	N
Password	varchar(255)	N

Workload
ID	integer(10)	N
Name	varchar(255)	N
subejctID	integer(10)	N
lecturerID	integer(10)	N
LecturerID	integer(10)	

Enroll
studentID	integer(10)	
sujjectID	integer(10)	N

Subject
ID	integer(10)	
Name	varchar(255)	N
lecturerID	integer(10)	N
Grade	integer(10)	N

Assignment
ID	integer(10)	N
Type	varchar(255)	N
Question	varchar(255)	N
File	integer(10)	N

Quiz
ID	integer(10)	N
subjectID	integer(10)	N
QuestionType	integer(10)	N
Result	integer(10)	N

Admin Entity – 3NF

Lecturer Entity – 3NF

Student Entity – 3NF

Workload Entity – 2NF

Enroll Entity – 2NF

Subject Entity – 2NF

Assignment Entity – 3NF

Quiz Entity – 1NF

Hence in this case we will be normalizing:- Workload, Subject, Enroll, Quiz.

3NF

WORKLOAD	
subject_id	**lecturer_id**

_____

3NF

SUBJECT	
subject_id	subject_name

_____
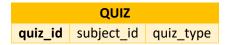
3NF

ENROLL		
student_id	**subject_id**	lecturer_id

_____

Group 17

2NF

QUIZ								
subject_id	subject_name	**student_id**	**lecturer_id**	quiz	quiz_answer	assignment	assignment_answer	quiz_marks

3NF

QUIZ		
quiz_id	subject_id	quiz_type

MULTIPLE_QUIZ					
quiz_id	question_form	answer_a	answer_b	answer_c	answer_d

TF_QUIZ		
quiz_id	question_form	answer

QUIZ_MARKS	
quiz_id	marks

ASSIGNMENT		
assignment_id	assignment_desc	assignment_answer

_____

Group 17

Summary UNF-3NF

UNF

- QUIZ (admin_name, admin_password, lecturer_name, lecturer_password, student_name, student_email, student_password, subject_name, tasks, marks)

1NF

- QUIZ (admin_id,admin_name, admin_password, lecturer_id, lecturer_name, lecturer_password,student_id, student_name, student_email, student_password, subject_id, subject_name,quiz, quiz_answer, assignment, assignment_answer, quiz_marks, assignment_marks)

2NF

- ADMIN (admin_id, admin_name, admin_password)
- LECTURER (lecturer_id, lecturer_name, lecturer_password)
- STUDENT (student_id, student_name, student_email, student_password)
- QUIZ (subject_id, subject_name, student_id, lecturer_id, quiz, quiz_answer, assignment, assignment, answer, quiz_marks)

3NF

- ADMIN (admin_id, admin_name, admin_password)
- LECTURER (lecturer_id, lecturer_name, lecturer_password)
- STUDENT (student_id, student_name, student_email, student_password)
- SUBJECT (subject_id, subject_name)
- WORKLOAD (subject_id, lecturer_id)
- ENROLL (student_id,subject_id)
- QUIZ (quiz_id, subject_id, quiz_type)
- MULTIPLE_QUIZ (quiz_id, question_form, answer)
- TF_QUIZ (quiz_id, question_form, answer_a, answer_b, answer_c, answer_d)
- QUIZ_MARKS (quiz_id, marks)
- ASSIGNMENT (assignment_id, assignment_desc, assignment_answer)

Group 17

ERD 2ⁿᵈ DRAFT

ADMIN

PK	admin_id int NN
	admin_name VARCHAR
	admin_password VARCHAR NN

STUDENT

PK	student_id int NN
	student_nameVARCHAR NN
	student_password VARCHAR NN
	student_email VARCHAR NN
FK	subject_id VARCHAR NN

LECTURER

PK	lecturer_id int NN
	lecturer_name VARCHAR NN
	lecturer_password VARCHAR NN
FK	subject_id VARCHAR NN

WORKLOAD

PK,FK	lecturer_id int NN
PK,FK	subject_id VARCHAR NOT NULL

ENROLL

PK,FK	subject_id VARCHAR NN
PK,FK	student_id VARCHAR NN

SUBJECT

PK	subject_id VARCHAR NN
	subject_name VARCHAR NN

QUIZ_MARKS

PK,FK	quiz_id int NN
	marks int

MULTIPLE_QUIZ

PK	multiple_quiz_id int NN
	question_form VARCHAR NN
	answer_a VARCHAR NN
	answer_b VARCHAR NN
	answer_c VARCHAR NN
	answer_d VARCHAR NN

ASSIGNMENT

PK	assignment_id int NN
FK	assignment_desc VARCHAR NN
FK	assignment_answer VARCHAR NN

QUIZ

PK	quiz_id int NN
FK	subject_id VARCHAR NN
	quiz_type VARCHAR NN

TF_QUIZ

PK	tf_quiz_id int NN
	answer boolean NN