

Models

1. Student:

○ Fields:

- **name** (CharField): The name of the student. Required. Maximum length of 100 characters.
- **roll_number** (CharField): A unique identifier for the student. Required. Maximum length of 10 characters.
- **date_of_birth** (DateField): The birthdate of the student. Required.
- **gender** (CharField): The gender of the student. Choices: "Male", "Female". Required.
- **address** (TextField): The address of the student. Required.
- **email** (EmailField): The email address of the student. Required. Unique.

2. Teacher:

○ Fields:

- **name** (CharField): The name of the teacher. Required. Maximum length of 100 characters.
- **subject** (CharField): The subject taught by the teacher. Required. Maximum length of 100 characters.
- **date_of_birth** (DateField): The birthdate of the teacher. Required.
- **gender** (CharField): The gender of the teacher. Choices: "Male", "Female". Required.
- **address** (TextField): The address of the teacher. Required.
- **email** (EmailField): The email address of the teacher. Required. Unique.

3. Class:

○ Fields:

- **name** (CharField): The name of the class (e.g., "Grade 10"). Required. Maximum length of 100 characters.
- **section** (CharField): The section of the class (e.g., "A", "B"). Required. Maximum length of 10 characters.
- **start_time** (TimeField): The start time of the class. Required.
- **end_time** (TimeField): The end time of the class. Required.

4. Subject:

○ Fields:

- **name** (CharField): The name of the subject. Required. Maximum length of 100 characters.
- **code** (CharField): A unique code for the subject. Required. Maximum length of 10 characters.

5. Exam:

○ Fields:

- **name** (CharField): The name of the exam. Required. Maximum length of 100 characters.
 - **date** (DateField): The date of the exam. Required.
 - **class** (ForeignKey to Class): The class for which the exam is conducted. Required.
6. Result:
- Fields:
 - **exam** (ForeignKey to Exam): The exam for which the result is recorded. Required.
 - **student** (ForeignKey to Student): The student whose result is recorded. Required.
 - **marks** (IntegerField): The marks obtained by the student in the exam. Required.
7. Attendance:
- Fields:
 - **date** (DateField): The date for which the attendance is recorded. Required.
 - **student** (ForeignKey to Student): The student whose attendance is recorded. Required.
 - **status** (CharField): The attendance status. Choices: "Present", "Absent". Required.
8. Assignment:
- Fields:
 - **title** (CharField): The title of the assignment. Required. Maximum length of 100 characters.
 - **description** (TextField): The description/instructions for the assignment. Required.
 - **due_date** (DateField): The due date for the assignment. Required.
 - **subject** (ForeignKey to Subject): The subject for which the assignment is given. Required.
9. Notice:
- Fields:
 - **title** (CharField): The title of the notice. Required. Maximum length of 100 characters.
 - **description** (TextField): The description/details of the notice. Required.
 - **date** (DateField): The date on which the notice is posted. Required.
10. LibraryBook:
- Fields:
 - **title** (CharField): The title of the book. Required. Maximum length of 100 characters.
 - **author** (CharField): The author of the book. Required. Maximum length of 100 characters.

- `publication_date` (DateField): The publication date of the book. Required.
- `availability_status` (BooleanField): The availability status of the book. Required.

Queries

1. Retrieve all students who have scored higher than the average marks in a specific exam:
 - Question: "Find all the students who have scored higher than the average marks in the given exam."
2. Retrieve all teachers who teach either "Mathematics" or "Science" subjects:
 - Question: "Identify all the teachers who teach either Mathematics or Science subjects."
3. Retrieve all exams where the number of students who scored above 80 marks is greater than the number of students who scored below 40 marks:
 - Question: "List all the exams where the count of students scoring above 80 marks is greater than the count of students scoring below 40 marks."
4. Retrieve all students who have an attendance percentage above 90%:
 - Question: "Retrieve the list of students who have maintained an attendance percentage above 90%."
5. Retrieve all assignments that are due within the next 3 days:
 - Question: "Get the assignments that are due within the upcoming 3 days."
6. Retrieve all library books that have been published in the current year:
 - Question: "Show all the library books published in the current year."
7. Retrieve all students who have the same name as a teacher:
 - Question: "Find the students who share the same name as any of the teachers."
8. Retrieve all subjects taught in a class where the start time is earlier than the end time:
 - Question: "List the subjects taught in the classes where the start time is earlier than the end time."
9. Retrieve all students who have a roll number containing the digit "5" and whose name starts with the letter "A":
 - Question: "Retrieve the students whose roll number contains the digit '5' and whose name starts with the letter 'A'."
10. Retrieve all exams conducted on a weekend (Saturday or Sunday):
 - Question: "Identify all the exams that were conducted on a weekend (Saturday or Sunday)."