Phase 2 – Project 1
Lerner's Academy

1- Project description

A website that manages school system. The main functionality is to manage the **subjects, classes and teachers.** An **Administrator** manages those functionalities, he is the only user to this website. The **Administrator** can do several things which are listed below.

The admin can do (features):
- Add new Subjects
- Add new classes
- Add new teachers
- Assign subject to a class
- Assign Classes to the teachers
- Show the list of **Students** (you generate the students)

2- What is required?

- Database
  The database is required to store the **subjects, classes and teacher's** information. Also store the **students** and the generated table of many-to-many relation(teachers-classes).
- Java Dynamic Web Project
  To create and control **HTML/JSP** pages via servlets.

3- The Database

The database has several **Entities** that may have a constrains**:**
- Subject
  - To store subjects. You decide which columns to be included, Example: id, name

- Classes
  - To store classes. You decide which columns to be included,
    Example: id, roomNo, Subject_id
    There is a Foreign Kye constrain (Subject_id) from **Subject** Entity.
    One of the requirements is that a class has to have one subject assign to it,
    Hence, you have a Foreign Kye constrain (Subject_id).
- Teachers
  - To store teachers. You decide which columns to be included,
    Example: id, name, e-mail
    There is a many-to-many relation with **classes** Entity, because a teacher can
    have many classes to teach, hence, a new Entity is required to store teacher
    and classes information, you may name it **Teacher_Classes.**
- Teacher_Classes
  - To store teacher classes. It has two columns that hold the id's.
    Example: Theacher_id, Class_id
    There is a Foreign Kye constrains, (Teacher_id) from **Teachers** Entity, and
    (Class_id) from **Classes** Entity.
- Students
  - To store the student information. You decide which columns to be included,
    Example: id, name, e-mail, class_id
    There is a Foreign Kye constrain (class_id) from **Classes** Entity.
    One of the requirements is that a **student** has to have one class assign to it,
    Hence, you have a Foreign Kye constrain (class_id).

4- Web Pages

Web pages you might have:

- Login page
- Menu page (to select one of the features that administrator can do)
- Add new Subject (feature) page
  - The fields are the **Subjects** Entity columns.
- Add new classes (feature) page
  - The fields are the **Classes** Entity columns.
    The **Assign subject to a class** feature is included in this page.
    For example: you can have it as dropdown menu (for the Subject_id column).
- Add new teacher (feature) page
  - The fields are the **Teachers** Entity columns.
- Assign classes to the teacher (feature) page
  - The fields are the Teacher_Classes Entity columns.
    For example: you can have it as dropdown menu.
- Show the list of **Students** (feature) page (you generate the students)
  - A table to show/list the student and their information.