Student Management DB

student(**student\_id**, first\_name, last\_name, dob, gender, address, note, *class\_id*)

subject(**subject\_id**, name, credit, percentage\_final\_exam)

lecturer(**lecturer\_id**, first\_name, last\_name, dob, gender, address, email)

teaching(***subject\_id*, *lecturer\_id***)

grade(**code**, fromScore, toScore)

clazz(**clazz\_id**, name, *lecturer\_id*, *monitor\_id*)

enrollment(***student\_id*, *subject\_id*, semester,** midterm\_score, final\_score)

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student(**student\_id**, first\_name, last\_name, dob, gender, address, note, *class\_id*)

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| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| student\_id | CHAR(8) | Yes | Student identification code. PRIMARY KEY |
| first\_name | VARCHAR(20) | Yes | First name |
| last\_name | VARCHAR(20) | Yes | Last name |
| dob | DATE | Yes | Date of birth. New student’s age must be between 16 and 35. |
| gender | CHAR(1) | No | Sex, must be either 'F' (female) or 'M' (male). |
| address | VARCHAR(30) | No | Residential address |
| note | TEXT | No | Other information |
| clazz\_id | CHAR(8) | No | Class identification code of student. It is a FOREIGN KEY references to Clazz\_id of Class relation |

subject(**subject\_id**, name, credit, percentage\_final\_exam)

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| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| subject\_id | CHAR(6) | Yes | Subject identification code. PRIMARY KEY |
| name | VARCHAR(30) | Yes | Subject name |
| credit | INT | Yes | Credit number, must be between 1 and 5. |
| percentage\_final\_exam | INT | Yes | Percentage of final examination for final evaluation. It varies between 0-100. |

lecturer(**lecturer\_id**, first\_name, last\_name, dob, gender, address, email)

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| --- | --- | --- | --- |
| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| lecturer\_id | CHAR(5) | Yes | Lecturer identification code. PRIMARY KEY |
| first\_name | VARCHAR(20) | Yes | First name |
| last\_name | VARCHAR(20) | Yes | Last name |
| dob | DATE | Yes | Date of birth. New lecturer’s age must be between 22 and 65. |
| gender | CHAR(1) | No | Sex, must be either 'F' (female) or 'M' (male). |
| address | VARCHAR(30) | No | Residential address |
| email | VARCHAR(40) | No | Email address |

Teaching(***subject\_id*, *lecturer\_id***)

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| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| subject\_id | CHAR(6) | Yes | Subject identification code. FOREIGN KEY references to subject\_id of Subject relation |
| lecturer\_id | CHAR(5) | Yes | lecturer identification code. FOREIGN KEY references to lecturer\_id of lecturer relation |
| PRIMARY KEY = {subject\_id, lecturer\_id} | | | |

grade(**code**, from\_score, to\_score): grade definition

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| --- | --- | --- | --- |
| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| code | CHAR(1) | Yes | Course grade. DOMAIN = {'A', 'B', 'C', 'D', 'F'}. PRIMARY KEY. |
| from\_score | DECIMAL(3,1) | Yes | The minimal value of grade interval.  DOM = [0, 10]. |
| To\_score | DECIMAL(3,1) | Yes | The maximal value of grade interval.  DOM = [0,10]. |

clazz(**clazz\_id**, name, *lecturer\_id*, *monitor\_id*)

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| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| clazz\_id | CHAR(8) | Yes | Class identification code. PRIMARY KEY |
| name | VARCHAR(20) | No | Class name |
| lecturer\_id | CHAR(5) | No | Lecturer identification code of form teacher; FOREIGN KEY references to lecturer\_id of Lecturer relation |
| monitor\_id | CHAR(8) | No | ID of class monitor. FOREIGN KEY references to student(student\_id) |

enrollment(***student\_id*, *subject\_id*, semester,** midterm\_score, final\_score)

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| --- | --- | --- | --- |
| **Attribute name** | **Type** | **NOT NULL** | **Description** |
| student\_id | CHAR(8) | Yes | Student identification code.  FOREIGN KEY references to student(student\_id) |
| subject\_id | CHAR(6) | Yes | Subject code.  FOREIGN KEY references to subject(subject\_id) |
| semester | CHAR(5) | Yes | Annual semester: '20171', '20172', '20173', … |
| midterm\_score | Float | No | Score of mid-term exam. DOM = [0,10] and (midtermScore mod 0.5) must be 0 |
| Final\_score | Float | No | Score of final exam. DOM= [0,10] (finalScore mod 0.5) must be 0 |
| PRIMARY KEY = {student\_id, subject\_id, semester} | | | |