|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| F-raNo | Stoka-No | Qty | Unit\_Price | Total\_Price |
| 123 | 789 | 2 | 5,5 | 11 |
| 123 | 890 | 1 | 1,0 | 1 |
| 124 | 345 | 1 | 5 | 5 |
| 124 | 346 | 2 | 3 | 6 |

Студенти

|  |  |  |  |
| --- | --- | --- | --- |
| Студент | Фак. No | Курс | Специалност  FOREIGN KEY |
| Иванов | 123456 | 2 | 1 |
| Петров | 234567 | 3 | 4 |
| Стоянов | 321456 | 5 | 3 |

Специалност

|  |  |  |
| --- | --- | --- |
| ID | Spec | Katedra |
| 1 | КСТ | КСТ |
| 2 | СКИ | КСТ |
| 3 | АРКУС | АИУТ |
| 4 | КТКС | КТТ |

Курсове

|  |  |
| --- | --- |
| Kurs\_ID | Kurs |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |

Обекти:

* Студенти
* Оценки
* Преподаватели
* Предмети
* Специалности
* Катедри

Таблица „Student“:

* Fac\_Number: CHAR(8) PRIMARY KEY;
* StudentName: VARCHAR(50);
* Course: TINYINT UNSIGNED;
* Specialty: INT FK ON Specialties(Specialty\_ID) ; //1:N

Таблица „Teacher”:

* Teacher\_ID: INTEGER UNSIGNED AUTOINCREMENT NOT NULL PRIMARY KEY;
* TeacherName: VARCHAR(50);
* Department: TINYINT UNSIGNED FK on Departments (Department\_ID);
* Salary: DECIMAL(7,2);

Таблица “Specialties”:

* Specialty\_ID: INT UNSIGNED AUTOINCREMENT NOT NULL PRIMARY KEY;
* Spec\_Name: VARCHAR(60);
* Spec\_Short\_Name: VARCHAR(10);
* Department\_No: TINYINT UNSIGNED FK on Departments (Department\_ID);

Таблица „Departments”:

* Department\_ID: TINYINT UNSIGNED AUTOINCREMENT NOT NULL PRIMARY KEY;
* Dept\_Name: VARCHAR(70);
* Dept\_Short\_Name: VARCHAR(10);

Таблица: „Subjects”:

* Subject\_ID: INT UNSIGNED AUTOINCREMENT NOT NULL PRIMARY KEY;
* Subject\_Name: VARCHAR(50);
* Subject\_Short\_Name: VARCHAR(10);

Таблица „Grades”:

* Student: CHAR(8) NOT NULL FOREIGN KEY on Students (Student\_ID);
* Subject: INT UNSIGNED NOT NULL FOREIGN KEY on Subjects (Subject\_ID);
* Teacher: INTEGER UNSIGNED FOREIGN KEY on Teachers (Teacher\_ID);
* Grade: TINYINT UNSIGNED;

Съставен първичен ключ Student+Subject; (+Teacher???)

Subjects\_Teachers:

Subject\_ID: INT UNSIGNED PRIMARY KEY FOREIGN KEY on Subjects (Subject\_ID);

Teacher\_ID: INT UNSIGNED PRIMARY KEY FOREIGN KEY on Teachers (Teacher\_ID);

Съставен първичен ключ: Subject\_ID + Teacher\_ID

|  |  |  |  |
| --- | --- | --- | --- |
| Teacher\_ID | Teacher\_Name | Department | Salary |
| 1 | Genkov | 1 | 1500.00 |
| 2 | Dinev | 1 | 1300.00 |
| 3 | Slavov | 1 | 1400.00 |
| 4 | Slavova | 6 | 1200.00 |

|  |  |
| --- | --- |
| Teacher\_ID | Subject\_ID |
| 1 | 1 |
| 1 | 2 |
| 2 | 1 |
| 3 | 2 |
| 4 | 3 |
| 1 | 4 |
| 3 | 4 |

|  |  |  |
| --- | --- | --- |
| Subject\_ID | Subject\_Name | Subject\_Short\_Name |
| 1 | Databases | DB |
| 2 | Computer Networks | CN |
| 3 | English | E |
| 4 | Computer and Network Security | CNS |

**XML:**

<University>

<Teacher>

<Teacher\_ID>1</Teacher\_ID>

<Teacher\_Name>Genkov</Teacher\_Name>

<Department>KST</Department>

<Salary>1500,00</Salary>

</Teacher>

<Teacher>

<Teacher\_ID>2</Teacher\_ID>

<Teacher\_Name>Dinev</Teacher\_Name>

<Department>KST</Department>

<Salary>1300,00</Salary>

</Teacher>

<Teacher>

<Teacher\_ID>3</Teacher\_ID>

<Teacher\_Name>Slavov</Teacher\_Name>

<Department>KST</Department>

<Salary>1400,00</Salary>

</Teacher>

<Teacher>

<Teacher\_ID>4</Teacher\_ID>

<Teacher\_Name>Slavova</Teacher\_Name>

<Department>DESO</Department>

<Salary>1200,00</Salary>

</Teacher>

<Subject Subject\_ID=1>

<Subject\_Name> Databases </Subject\_Name>

<Subject\_Short\_Name>DB</ Subject\_Short\_Name >

</Subject>

<Subject Subject\_ID=2>

<Subject\_Name> Computer Networks </Subject\_Name>

<Subject\_Short\_Name>CN</ Subject\_Short\_Name >

</Subject>

<Subject Subject\_ID=3>

<Subject\_Name> English</Subject\_Name>

<Subject\_Short\_Name>E</ Subject\_Short\_Name >

</Subject>

<Subject Subject\_ID=4>

<Subject\_Name>Computer and Network Security</Subject\_Name>

<Subject\_Short\_Name>CNS</ Subject\_Short\_Name >

</Subject>

<Teaches>

<Teacher\_ID>1</Teacher\_ID>

<Subject\_ID>1</Subject\_ID>

</Teaches>

<Teaches>

<Teacher\_ID>1</Teacher\_ID>

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<Subject\_ID>4</Subject\_ID>

</Teaches>

<Teaches>

<Teacher\_ID>3</Teacher\_ID>

<Subject\_ID>4</Subject\_ID>

</Teaches>

</University>

**JSON:**

{

“teachers”: [{“ID”:1, “Name”: “Genkov”, “Department”: “CST”, “Salary”: 1500},

{“ID”:2, “Name”: “Dinev”, “Department”: “CST”, “Salary”: 1200},

{ “ID”:3, “Name”: “Slavov”, “Department”: “CST”, “Salary”: 1300},

{“ID”:4, “Name”: “Slavova”, “Department”: “DESO”, “Salary”: 1100}],

“Subjects”: [{“Subject\_ID”: 1, “Subject\_Name”:“Databases”, “Subject\_Short\_Name”:”DB”},

{“Subject\_ID”: 2, “Subject\_Name”:“Computer Networks”, “Subject\_Short\_Name”:”CN”},

{“Subject\_ID”: 3, “Subject\_Name”:“English”, “Subject\_Short\_Name”:”E”},

{“Subject\_ID”: 4, “Subject\_Name”:“Computer and Network Security”, “Subject\_Short\_Name”:”CNS”}

]

“Teaches”: [{“Teacher\_ID”:1, “Teaches”: 1},

{“Teacher\_ID”:1, “Teaches”: 2},

{“Teacher\_ID”:2, “Teaches”: 1},

{“Teacher\_ID”:3, “Teaches”: 2},

{“Teacher\_ID”:4, “Teaches”: 3},

{“Teacher\_ID”:1, “Teaches”: 4},

{“Teacher\_ID”:3, “Teaches”: 4}

]

}

Опростен електронен магазин:

* Определяне на обектите
* Категории
* Подкатегории
* Продукти
* Клиенти
* Поръчки
* Параметри на магазина
* Определяне на приложими атрибути

Categories:

* Category\_ID – INT UNSIGNED AUTOINCREMENT PRIMARY KEY
* Category\_Name – VARCHAR(50) NOT NULL
* IsActive – BOOLEAN

Subcategories:

* Category\_ID – INT FOREIGN KEY REFERENCING Categories(Category\_ID)
* Subcategory\_ID – INT NOT NULL
* Subcategory\_Name – VARCHAR(50)

Products:

* Product\_ID – BIGINT AUTOINCREMENT UNSIGNED PRIMARY KEY
* Product\_Name – VARCHAR (255)
* Product\_Rating – DECIMAL(3,2)
* Price – DECIMAL(10,2)
* Product\_Description – TEXT
* Product\_Specifications - TEXT
* Product\_Picture – BLOB

Clients:

* Client\_ID - BIGINT AUTOINCREMENT UNSIGNED PRIMARY KEY
* Client\_Name – VARCHAR(80)
* Username – VARCHAR(20)
* Password
* E-mail – VARCHAR(80)
* Address – TEXT
* Phone – VARCHAR(30)

Orders:

* Order\_ID - BIGINT AUTOINCREMENT UNSIGNED PRIMARY KEY
* Client\_ID – BIGINT FOREIGN KEY REFERENCING Client(Client\_ID)
* Order\_Date – DATE

Order\_Product:

* Order\_ID – BIGINT FOREIGN KEY REFERENCING Orders(Order\_ID)
* Product\_ID - BIGINT FOREIGN KEY REFERENCING Products(Product\_ID)
* Count – INT
* Unit\_Price - DECIMAL(10,2)

PRIMARY KEY (Order\_ID, Product\_ID)