**Лабораторная работа 2. Моделирование данных**

1. **Exercise 1.** 
   1. Task 1: Определить сущности

Student, Tutor, Course, Place, Presentation

* 1. Task 2: Добавить подходящие атрибуты

|  |
| --- |
| Student |
| studentId |
| studentName |
| studentAdress |

|  |
| --- |
| Teacher |
| teacherId |
| teacherName |
|  |

|  |
| --- |
| Course |
| courseName |
| courseCost |
| courseStartDate |
| courseFinishDate |

|  |
| --- |
| Grade |
| CourseName |
| Grade |
| studentId |

Первичный ключ выделен синим цветом

1. **Exercise 2: Выявить взаимоотношения**
   1. Task 1: Создать список именованных связей

Student-Grade

Student-Course

Teacher-Course

Course-Grade

* 1. Task 2: Построить E-R диаграмму

**E-R Diagram (Initial)**

Teacher

Course

Student

Grade

* 1. Task 3: Перестроить отношения многие-ко-многим

**E-R Diagram (Updated)**

Student

Teacher

Course

Registration

Grade

|  |
| --- |
| Teacher |
| teacherId |
| teacherFirstName |
| teacherSecondName |

|  |
| --- |
| Course |
| courseName |
| courseCost |
| courseStartDate |
| courseFinishDate |

|  |
| --- |
| Grade |
| courseName |
| studentId |
| registrationId |
| grade |

|  |
| --- |
| Student |
| studentId |
| studentFirstName |
| studentSecondName |
| studentAdress |

|  |
| --- |
| Registration |
| studentId |
| courseName |
| registrationId |
| teacherId |

Первичные ключи выделены синим цветом

**Exercise 3: Закончить модель**

**E-R Diagram (Final)**

Student

Course

Teacher

Преподаватель может быть зарегистрирован

Каждый студент должен быть зарегистрирован

Курс должен быть зарегистрирован

Registration

Оценка может быть проставлена

Grade

|  |
| --- |
| Teacher |
| teacherId |
| teacherFirstName |
| teacherSecondName |

|  |
| --- |
| Course |
| courseName |
| courseCost |
| courseStartDate |
| courseFinishDate |

|  |
| --- |
| Grade |
| courseName |
| studentId |
| registrationId |
| grade |

|  |
| --- |
| Student |
| studentId |
| studentFirstName |
| studentSecondName |
| studentAdress |

|  |
| --- |
| Registration |
| studentId |
| courseName |
| registrationId |
| teacherId |

|  |  |
| --- | --- |
| Переменная | Диапазон |
| studentId | 0..999 |
| studentFirstName | string |
| studentSecondName | string |
| studentAdress | string |
| teacherId | 0..99 |
| teacherFirstName | string |
| teacherSecondName | string |
| courseName | string |
| courseCost | 0..99999 |
| courseStartDate | 01/01/2000 |
| courseFinishDate | 12/12/2050 |
| registrationId | 0…999 |