# Laboratory work 4

1.

a) What are the main phases in the database design? What is done on each development phase?

Answer:

1. **Initial phase – we need to analyze which data we need to work.**
2. **Second phase – which data model we will use. ER or UML. Create tables and also.**
3. **Final phase – we make that project, , and work with it. It contains logical design – attributes, creating schemas and etc. Physical Design – Deciding on the physical layout of the database (определение физ положение)**

b) What is the entity-relationship **(ER) data model**?

**It contains entities and relations. Enteties is the object(table) , relations it’s connection between them.**

2.

1. Create entity **“Student”** with at least **5 attributes** (One for each type of attribute:

# simple, composite, derived, multivalued)

1. Create entities **“University”, “Course”, “Dormitory”, “Teacher”, “Office of the Registrar”** with at least 3 attributes each. (Entity types should be correct on data model)
2. Give examples for **one-to-many, one-to-one, many-to-many, many-to-one**

relations. (Draw the examples as a scheme)

1. Create ER data model with relations using data from the second task.
2. Create ER data model for IT company. (**At least 5 entities and 8 relations**)