## **Homework: drawing ER of a MOVIE database**

**Please read the instructions for this activity and homework carefully!** Submissions missing the steps mentioned in this handout will get only partial credits.

1. Have a few blank sheets to draw your initial and completed ER diagram for this sample database. **You need to include the pictures of your hand-drawing in the homework.**
2. Recall when we introduced the ER for COMPANY example, we drew it in two steps:
3. Initial step which we only draw entities and their attributes.
4. Completing step; drawing relationships, specifying constraints and cardinality ratios.

* You need to show your work for both steps (we want to see the progress of the ER development).
* These steps are explained more in details in the rest of this handout.

1. Work with your teammates to find the solution for this activity, but then draw it **individually** and submit as your homework on ASULearn.

**STEP ONE)**

Consider a movie database in which data is recorded about the movie industry. The data requirements are summarized as follows:

* **Movies** are *identified* by their title and year of release (the combination of a movie title and its year is unique). They have a length in minutes. They also have a studio that produces the movie and are classified under one or more genres (such as horror, action, drama etc). Movies are directed by one or more directors and have one or more actors acting in them. The movie also has a plot outline.
* **Actors** are *identified* by their names and date of birth and act in one or more movies. Each actor has a role in the movie.
* **Directors** are also *identified* by their names and date of birth and direct one or more movies. It is possible for a director to act in a movie (not necessarily in a movie they direct).
* **Studios** are *identified* by their names and have an address. They may produce one or more movies.

Create your initial ER Diagram where each item highlighted in bold above is an Entity. Do NOT represent relationships now, show only Entities and Attributes. Underline key attributes.

**STEP TWO)**

Identify the relationships between entities in previous question with a series of sentences and underline the name of the relationship. List the cardinality ratio and the participation constraints of each relationship.

Relationships sentence example: A studio produces movies. 1:N. Partial:Total.

**FINAL ER:**

* After completing step one and two, you know what to draw.
* Now draw your ER professionally by some tools or software. You can use some online tools such as <https://www.draw.io> or software like PowerPoint (or any other drawing tool you are familiar with).

**What to submit?**

1. Take pictures of your drawings for STEP ONE.
2. Create a docx file with the name Your lastname\_your firstname, and paste the pictures you took for the step one.
3. Write your sentences for step two.
4. Paste your final ER into the docx file.
5. Convert your docx file to PDF and submit it on asulearn.