**Name: Krishna Patel**

**ID No: 162406185**

**Date: Sep 10, 2019**

**Purpose: DBS201 Lab 02**

**Lab 02 - Relational Algebra**

**(Selection, Projection, Join)**

Consider the following relations:

**MOVIES** (id:int, title:varchar(35), year:int, director:int) Id is the key

**ACTORS** (id:int, name:varchar(20), lastname:varchar(30)) Id is the key.

**CASTINGS** (movieid:int, actorid:int) (movieid and actorid) is the key

**DIRECTORS**(id:int, name:varchar(20), lastname:varchar(30)) id is the key

1. What is the result of the following queries?

* Select tuples from relation director where id is 100.
  1. **Πtitle, year(**)
* Display title and year for movie with director = 100.
  1. **Πtitle, year,name,lastname(**
* Display title, year for all movies along with the name and last name of corresponding director.

1. Using the same schema as above, write each of the following queries as a relational algebra expression:
2. List all actors.
3. List the name and the year of all movies.
   1. **Πtitle, year**
4. Find all movies produced in 2010.
5. List all actors in the Avatar movie.

* **Πname,lastname( (**

1. Find the movie title, year, and the director name for movies produced in 2019.

* **Πtitle,year,name,lastname**

1. Find movie title and the movie director’s name and last name for all movies that the actor with ID = 200 plays a character in them.

* **Πtitle,name,lastname( (**

1. Find all actors played in movies produced after 2010 and before 2018.

* **Πid,name,lastname((**