**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ**

**НАЦІОНАЛЬНОМУ УНІВЕРСИТЕТІ “ЛЬВІВСЬКА ПОЛІТЕХНІКА”**

**Кафедра систем штучного інтелекту**

**Лабораторна робота №3**

з дисципліни

«Організація баз даних та знань»

**Виконав:**

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Яковлев Валерій

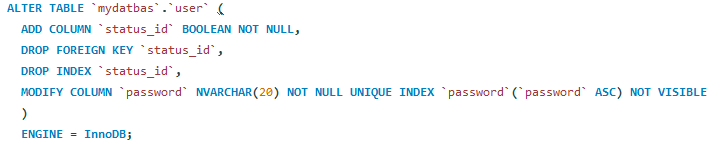
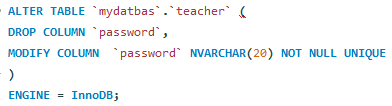
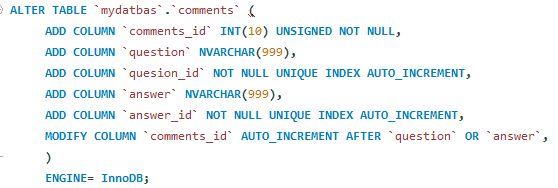
**Викладач:**

Мельникова Н.І.

Львів – 2019 р.



Створив три додаткові таблиці і зробив деякі зміни через них:



**Загальний код:**

create database if not exists root;

CREATE SCHEMA IF NOT EXISTS `mydatbas` DEFAULT CHARACTER SET utf8 COLLATE utf8\_bin ;

USE `mydatbas`;

CREATE TABLE IF NOT EXISTS `mydatbas`.`comments` (

`category\_id` INT(10) NOT NULL,

`comments` NVARCHAR(999) NOT NULL,

`text\_question` NVARCHAR(999) NULL,

`user\_user\_id` INT NOT NULL,

`teacher\_teacher\_id` INT NOT NULL,

`text\_answer` NVARCHAR(999) NULL,

PRIMARY KEY (`category\_id`, `user\_user\_id`, `teacher\_teacher\_id`),

INDEX `fk\_comments\_user1\_idx` (`user\_user\_id` ASC) VISIBLE,

INDEX `fk\_comments\_teacher1\_idx` (`teacher\_teacher\_id` ASC) VISIBLE,

CONSTRAINT `fk\_comments\_user1` FOREIGN KEY (`user\_user\_id`) REFERENCES `mydatbas`.`user` (`user\_id`) ON DELETE CASCADE ON UPDATE NO ACTION,

CONSTRAINT `fk\_comments\_teacher1` FOREIGN KEY (`teacher\_teacher\_id`) REFERENCES `mydatbas`.`teacher` (`teacher\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION)

ENGINE = InnoDB;

ALTER TABLE `mydatbas`.`comments` (

ADD COLUMN `comments\_id` INT(10) UNSIGNED NOT NULL,

ADD COLUMN `question` NVARCHAR(999),

ADD COLUMN `quesion\_id` NOT NULL UNIQUE INDEX AUTO\_INCREMENT,

ADD COLUMN `answer` NVARCHAR(999),

ADD COLUMN `answer\_id` NOT NULL UNIQUE INDEX AUTO\_INCREMENT,

MODIFY COLUMN `comments\_id` AUTO\_INCREMENT AFTER `question` OR `answer`,

)

ENGINE= InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`course` (

`course\_id` INT NOT NULL,

`name` NVARCHAR(50) NOT NULL,

`course\_name` NVARCHAR(45) NULL,

`course\_pay` NVARCHAR(30) NULL,

`course\_duration` NVARCHAR(20) NULL,

`course\_teacher\_id` NVARCHAR(45) NULL,

`acitve\_or\_not` BOOLEAN NULL,

PRIMARY KEY (`course\_id`))

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`status` (

`status\_id` INT NOT NULL,

`status\_online` BOOLEAN,

`status\_offline` BOOLEAN,

`create\_time` TIMESTAMP NULL DEFAULT CURRENT\_TIMESTAMP)

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`teacher` (

`teacher\_id` INT NOT NULL,

`teacher\_email` NVARCHAR(255) NULL,

`password` NVARCHAR(32) NOT NULL,

`create\_time` TIMESTAMP NULL DEFAULT CURRENT\_TIMESTAMP,

`teacher\_firstname` NVARCHAR(45) NULL,

`teacher\_lastname` NVARCHAR(45) NULL,

`teacher\_status` NVARCHAR(45) NULL,

PRIMARY KEY (`teacher\_id`))

ENGINE = InnoDB;

ALTER TABLE `mydatbas`.`teacher` (

DROP COLUMN `password`,

MODIFY COLUMN `password` NVARCHAR(20) NOT NULL UNIQUE

)

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`user` (

`username` NVARCHAR(45) NOT NULL,

`login` NVARCHAR(45) NOT NULL,

`password` NVARCHAR(45) NOT NULL,

`create\_time` TIMESTAMP NULL DEFAULT CURRENT\_TIMESTAMP,

`user\_id` NVARCHAR(45) NOT NULL,

PRIMARY KEY (`user\_id`),

UNIQUE INDEX `password\_un` (`password` ASC) VISIBLE,

UNIQUE INDEX `login\_un` (`login` ASC) VISIBLE,

UNIQUE INDEX `username\_un` (`username` ASC) VISIBLE)

ENGINE = InnoDB;

ALTER TABLE `mydatbas`.`user` (

ADD COLUMN `status\_id` BOOLEAN NOT NULL,

DROP FOREIGN KEY `status\_id`,

DROP INDEX `status\_id`,

MODIFY COLUMN `password` NVARCHAR(20) NOT NULL UNIQUE INDEX `password`(`password` ASC) NOT VISIBLE

)

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`user\_has\_course` (

`user\_user\_id` NVARCHAR(45) NOT NULL,

`course\_course\_id` INT NOT NULL,

PRIMARY KEY (`user\_user\_id`, `course\_course\_id`),

INDEX `fk\_user\_has\_course\_course1\_idx` (`course\_course\_id` ASC) VISIBLE,

INDEX `fk\_user\_has\_course\_user1\_idx` (`user\_user\_id` ASC) VISIBLE,

CONSTRAINT `fk\_user\_has\_course\_user1` FOREIGN KEY (`user\_user\_id`) REFERENCES `mydatbas`.`user` (`user\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION,

CONSTRAINT `fk\_user\_has\_course\_course1` FOREIGN KEY (`course\_course\_id`) REFERENCES `mydatbas`.`course` (`course\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`teacher\_has\_course` (

`teacher\_teacher\_id` INT NOT NULL,

`course\_course\_id` INT NOT NULL,

`teacher\_has\_role` NVARCHAR(45) NULL,

`teacher\_time\_of\_course` DATETIME (24.05.2019) NULL,

`course\_course\_id1` INT NOT NULL,

INDEX `fk\_teacher\_has\_course\_teacher1\_idx` (`teacher\_teacher\_id` ASC) VISIBLE,

UNIQUE INDEX `teacher\_teacher\_id\_UNIQUE` (`teacher\_teacher\_id` ASC) VISIBLE,

UNIQUE INDEX `course\_course\_id\_UNIQUE` (`course\_course\_id` ASC) VISIBLE,

UNIQUE INDEX `teacher\_has\_role\_UNIQUE` (`teacher\_has\_role` ASC) VISIBLE,

UNIQUE INDEX `teacher\_time\_of\_course\_UNIQUE` (`teacher\_time\_of\_course` ASC) VISIBLE,

PRIMARY KEY (`teacher\_teacher\_id`, `course\_course\_id1`),

INDEX `fk\_teacher\_has\_course\_course1\_idx` (`course\_course\_id1` ASC) VISIBLE,

CONSTRAINT `fk\_teacher\_has\_course\_teacher1` FOREIGN KEY (`teacher\_teacher\_id`) REFERENCES `mydatbas`.`teacher` (`teacher\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION,

CONSTRAINT `fk\_teacher\_has\_course\_course1` FOREIGN KEY (`course\_course\_id1`) REFERENCES `mydatbas`.`course` (`course\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`teacher\_has\_status` (

`teacher\_teacher\_id` INT NOT NULL,

`status\_status\_id` INT NOT NULL,

`teacher\_has\_status\_` BOOLEAN NOT NULL,

PRIMARY KEY (`teacher\_teacher\_id`, `status\_status\_id`),

INDEX `fk\_teacher\_has\_status\_status1\_idx` (`status\_status\_id` ASC) VISIBLE,

INDEX `fk\_teacher\_has\_status\_teacher1\_idx` (`teacher\_teacher\_id` ASC) VISIBLE,

CONSTRAINT `fk\_teacher\_has\_status\_teacher1` FOREIGN KEY (`teacher\_teacher\_id`) REFERENCES `mydatbas`.`teacher` (`teacher\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION,

CONSTRAINT `fk\_teacher\_has\_status\_status1` FOREIGN KEY (`status\_status\_id`) REFERENCES `mydatbas`.`status` (`status\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION)

ENGINE = InnoDB;

CREATE TABLE IF NOT EXISTS `mydatbas`.`user\_has\_status` (

`user\_user\_id` NVARCHAR(45) NOT NULL,

`user\_course\_course\_id` NVARCHAR(45) NOT NULL,

`status\_status\_id` NVARCHAR(16) NOT NULL,

PRIMARY KEY (`user\_user\_id`, `user\_course\_course\_id`, `status\_status\_id`),

INDEX `fk\_user\_has\_status\_status1\_idx` (`status\_status\_id` ASC) VISIBLE,

INDEX `fk\_user\_has\_status\_user1\_idx` (`user\_user\_id` ASC, `user\_course\_course\_id` ASC) VISIBLE,

CONSTRAINT `fk\_user\_has\_status\_user1` FOREIGN KEY (`user\_user\_id`) REFERENCES `mydatbas`.`user` (`user\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION,

CONSTRAINT `fk\_user\_has\_status\_status1` FOREIGN KEY (`status\_status\_id`) REFERENCES `mydatbas`.`status` (`status\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION)

ENGINE = InnoDB;