```sql
CREATE SCHEMA IF NOT EXISTS `Olifir` ;
USE `Olifir` ;

CREATE TABLE IF NOT EXISTS `Olifir`.`College` (
  `CollegeName` VARCHAR(50) NOT NULL,
  `CollegeTotalStudents` INT NULL,
  PRIMARY KEY (`CollegeName`))
ENGINE = InnoDB;
CREATE UNIQUE INDEX `CollegeName_UNIQUE` ON `Olifir`.`College`
(`CollegeName` ASC);

CREATE TABLE IF NOT EXISTS `Olifir`.`Buildings` (
  `BuildingID` INT NOT NULL,
  `BuildingName` VARCHAR(45) NULL,
  `CollegeName` VARCHAR(45) NOT NULL,
  PRIMARY KEY (`BuildingID`),
  CONSTRAINT `FK_Buildings_CollegeName`
    FOREIGN KEY (`CollegeName`)
    REFERENCES `Olifir`.`College` (`CollegeName`)
    )
ENGINE = InnoDB;
CREATE UNIQUE INDEX `BuildingID_UNIQUE` ON `Olifir`.`Buildings`
(`BuildingID` ASC);
CREATE INDEX `CollegeName_idx` ON `Olifir`.`Buildings` (`CollegeName`
ASC);

CREATE TABLE IF NOT EXISTS `Olifir`.`Classrooms` (
  `RoomNumber` INT NOT NULL,
  `HasProjector` VARCHAR(3) NULL,
  `BuildingID` INT NULL,
  PRIMARY KEY (`RoomNumber`),
  CONSTRAINT `FK_Classrooms_BuildingID`
    FOREIGN KEY (`BuildingID`)
    REFERENCES `Olifir`.`Buildings` (`BuildingID`)
    )
ENGINE = InnoDB;
CREATE UNIQUE INDEX `RoomNumber_UNIQUE` ON `Olifir`.`Classrooms`
(`RoomNumber` ASC);
CREATE INDEX `BuildingID_idx` ON `Olifir`.`Classrooms` (`BuildingID` ASC);

CREATE TABLE IF NOT EXISTS `Olifir`.`Textbook` (
  `TextbookISBN` INT NOT NULL,
```

```
  `TextbookTitle` VARCHAR(45) NULL,
  `TextbookAuthor` VARCHAR(45) NULL,
  PRIMARY KEY (`TextbookISBN`))
ENGINE = InnoDB;
CREATE UNIQUE INDEX `TextbookISBN_UNIQUE` ON `Olifir`.`Textbook`
(`TextbookISBN` ASC);

CREATE TABLE IF NOT EXISTS `Olifir`.`Course` (
  `CourseID` INT NOT NULL,
  `CourseName` VARCHAR(45) NULL,
  `TextbookISBN` INT NULL,
  PRIMARY KEY (`CourseID`),
  CONSTRAINT `FK_Course_TextbookISBN`
    FOREIGN KEY (`TextbookISBN`)
    REFERENCES `Olifir`.`Textbook` (`TextbookISBN`)
      )
ENGINE = InnoDB;
CREATE UNIQUE INDEX `CourseID_UNIQUE` ON `Olifir`.`Course` (`CourseID`
ASC);
CREATE INDEX `TextbookISBN_idx` ON `Olifir`.`Course` (`TextbookISBN`
ASC);

CREATE TABLE IF NOT EXISTS `Olifir`.`Person` (
  `PersonID` INT NOT NULL,
  `PersonPhoneNumber` VARCHAR(45) NULL,
  `PersonName` VARCHAR(45) NULL,
  PRIMARY KEY (`PersonID`))
ENGINE = InnoDB;
CREATE UNIQUE INDEX `PersonID_UNIQUE` ON `Olifir`.`Person` (`PersonID`
ASC);

CREATE TABLE IF NOT EXISTS `Olifir`.`Section` (
  `SectionID` INT NOT NULL,
  `SectionDate` DATE NULL,
  `RoomNumber` INT NULL,
  `CourseID` INT NULL,
  `BuildingID` INT NULL,
  `PersonID` INT NULL,
  PRIMARY KEY (`SectionID`),
  CONSTRAINT `FK_Section_CourseID`
    FOREIGN KEY (`CourseID`)
```

```
    REFERENCES `Olifir`.`Course` (`CourseID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `FK_Section_BuildingID`
    FOREIGN KEY (`BuildingID`)
    REFERENCES `Olifir`.`Buildings` (`BuildingID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `FK_Section_PersonID`
    FOREIGN KEY (`PersonID`)
    REFERENCES `Olifir`.`Person` (`PersonID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `FK_Section_RoomNumber`
    FOREIGN KEY (`RoomNumber`)
    REFERENCES `Olifir`.`Classrooms` (`RoomNumber`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;
CREATE UNIQUE INDEX `SectionID_UNIQUE` ON `Olifir`.`Section`
(`SectionID` ASC);
CREATE INDEX `RoomNumber_idx` ON `Olifir`.`Section` (`RoomNumber` ASC);
CREATE INDEX `CourseID_idx` ON `Olifir`.`Section` (`CourseID` ASC);
CREATE INDEX `BuildingID_idx` ON `Olifir`.`Section` (`BuildingID` ASC);
CREATE INDEX `PersonID_idx` ON `Olifir`.`Section` (`PersonID` ASC);
```

Приложение 2 Заполнение таблиц в MySQL

```
INSERT INTO `Olifir`.`College` (`CollegeName`, `CollegeTotalStudents`) VALUES
('MGPU', 26711);

INSERT INTO `Olifir`.`Buildings` (`BuildingID`, `BuildingName`, `CollegeName`)
VALUES (1, 'IEST', 'MGPU');
INSERT INTO `Olifir`.`Buildings` (`BuildingID`, `BuildingName`, `CollegeName`)
VALUES (2, 'ICO', 'MGPU');
INSERT INTO `Olifir`.`Buildings` (`BuildingID`, `BuildingName`, `CollegeName`)
VALUES (3, 'IGN', 'MGPU');
INSERT INTO `Olifir`.`Buildings` (`BuildingID`, `BuildingName`, `CollegeName`)
VALUES (4, 'IKI', 'MGPU');
```

```sql
INSERT INTO `Olifir`.`Buildings` (`BuildingID`, `BuildingName`, `CollegeName`)
VALUES (5, 'IPPO', 'MGPU');

INSERT INTO `Olifir`.`Classrooms` (`RoomNumber`, `HasProjector`, `BuildingID`)
VALUES (201, 'Y', 1);
INSERT INTO `Olifir`.`Classrooms` (`RoomNumber`, `HasProjector`, `BuildingID`)
VALUES (202, 'N', 1);
INSERT INTO `Olifir`.`Classrooms` (`RoomNumber`, `HasProjector`, `BuildingID`)
VALUES (203, 'Y', 1);
INSERT INTO `Olifir`.`Classrooms` (`RoomNumber`, `HasProjector`, `BuildingID`)
VALUES (303, 'N', 5);
INSERT INTO `Olifir`.`Classrooms` (`RoomNumber`, `HasProjector`, `BuildingID`)
VALUES (304, 'Y', 5);
INSERT INTO `Olifir`.`Classrooms` (`RoomNumber`, `HasProjector`, `BuildingID`)
VALUES (305, 'N', 5);

INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (200, 'Computer Science Illustrated', 'John Smith');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (201, 'Liang Java', 'Daniel Liang');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (202, 'Liang Java', 'Daniel Liang');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (203, 'Data Structures & Algorithms', 'William
Mcallister');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (204, 'Machine Learning', 'John Smith');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (205, 'Networking CCNA', 'Tom Smith');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (206, 'Intro to Calculus', 'Isaac Newton');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (207, 'Advanced Topics in Calculus', 'James Stewart');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (208, 'Vectors and Matrices in Calculus', 'James
Stewart');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (209, 'Multivariable Calculus', 'James Stewart');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (210, 'Math for Computer Science', 'James Hoy');
```

```sql
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (211, 'Fundamentals of Accounting', 'Nicholas Bosco');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (212, 'Fundamentals of Accounting', 'Nicholas Bosco');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (213, 'Short Stories', 'Daniel Linker');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (214, 'Poems and Stories', 'William Burns');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (215, 'Organic Chemistry Principles', 'Craig Johnson');
INSERT INTO `Olifir`.`Textbook` (`TextbookISBN`, `TextbookTitle`,
`TextbookAuthor`) VALUES (216, 'Organic Chemistry Principles', 'Craig Johnson');

INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (1, 'Computer Science I', 200);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (2, 'Computer Science II', 201);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (3, 'Computer Science III', 202);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (4, 'Data Structures', 203);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (5, 'Computer Assembly', 204);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (6, 'Intro To Networking', 205);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (7, 'Calculus I', 206);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (8, 'Calculus II', 207);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (9, 'Calculus III', 208);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (10, 'Differential Equations', 209);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (11, 'Linear Algebra', 210);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (12, 'Accounting I', 211);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (13, 'Accounting II', 212);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (14, 'Composition', 213);
```

INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (15, 'Literature', 214);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (16, 'Organic Chemistry I', 215);
INSERT INTO `Olifir`.`Course` (`CourseID`, `CourseName`, `TextbookISBN`)
VALUES (17, 'Organic Chemistry II', 216);

INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (1, '635-448-6158', 'Tanya Ferguson');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (2, '654-651-8521', 'Guy Neill');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (3, '687-846-5132', 'Dennis Wilks');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (4, '876-263-4455', 'Kenneth Mason');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (5, '184-846-4613', 'Mike Briley');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (6, '184-618-4842', 'Mary George');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (7, '618-476-4631', 'June Walkters');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (8, '594-976-4326', 'Angela Mendez');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (9, '459-487-9635', 'John Leak');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (10, '111-526-8633', 'Carey Cochran');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (11, '216-549-8633', 'Jerry Ryan');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (12, '549-798-6568', 'Hugo Jurgens');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (13, '654-849-9562', 'Anita Nelson');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (14, '954-598-5456', 'Robert Arnold');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (15, '108-865-6406', 'Helen Small');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (16, '952-814-6546', 'Jason Leavitt');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (17, '646-979-4626', 'Heather Vester');

```sql
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (18, '649-452-9488', 'Ivan Wright');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (19, '959-561-2512', 'Norman Roberts');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (20, '646-289-5849', 'James Neville');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (21, '168-516-5213', 'Jamie Kurland');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (22, '651-651-2383', 'Brenda Thornberry');
INSERT INTO `Olifir`.`Person` (`PersonID`, `PersonPhoneNumber`, `PersonName`)
VALUES (23, '651-468-4684', 'Tom Katz');

INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (100, '2017-12-27', 201, 3, 1, 1);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (101, '2017-12-27', 202, 7, 1, 2);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (102, '2017-12-27', 203, 12, 1, 3);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (103, '2017-12-27', 303, 15, 5, 4);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (104, '2017-12-27', 304, 17, 5, 5);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (105, '2017-12-27', 304, 17, 5, 6);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (106, '2017-12-27', 304, 16, 5, 7);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (107, '2017-12-27', 304, 17, 5, 8);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (108, '2017-12-27', 304, 1, 5, 9);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (109, '2017-12-27', 201, 3, 1, 10);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (110, '2017-12-27', 201, 3, 1, 11);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (111, '2017-12-27', 201, 3, 1, 12);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (112, '2017-12-27', 202, 7, 1, 13);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`,
`CourseID`, `BuildingID`, `PersonID`) VALUES (113, '2017-12-27', 203, 12, 1, 14);
```

INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`, `CourseID`, `BuildingID`, `PersonID`) VALUES (114, '2017-12-27', 203, 12, 1, 15);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`, `CourseID`, `BuildingID`, `PersonID`) VALUES (115, '2017-12-27', 303, 15, 5, 16);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`, `CourseID`, `BuildingID`, `PersonID`) VALUES (116, '2017-12-27', 303, 15, 5, 17);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`, `CourseID`, `BuildingID`, `PersonID`) VALUES (117, '2017-12-27', 303, 15, 5, 18);
INSERT INTO `Olifir`.`Section` (`SectionID`, `SectionDate`, `RoomNumber`, `CourseID`, `BuildingID`, `PersonID`) VALUES (118, '2017-12-27', 303, 15, 5, 19);

Приложение 3 Представление, демонстрирующее количество студентов в аудитории, занимающихся по определенной программе

CREATE VIEW v1 (номер_здания, номер_класса, номер_программы, колво_учеников)
as Select section.BuildingID, section.RoomNumber, section.CourseID, COUNT(person.PersonID)
from (section join person on((person.PersonID = section.PersonID)))
GROUP BY section.BuildingID, section.RoomNumber, section.CourseID