Lớp: (ĐHBKTPHCM) **Báo cáo bài tập lớn số 2 - 2019**

Danh sách thành viên: **Đề tài: HỆ THỐNG QUẢN LÍ**

**THÔNG TIN TICKLAB**

1. Huỳnh Hoàng Kha, 1511449
2. Châu Thành Đạt, 1710934
3. Nguyễn Ngọc Duy Phong, 1712617
4. Phần chung
5. Các câu lệnh tạo bảng và ràng buộc:

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| -- CREATE DATABASE  CREATE DATABASE TickLabInfoSystem;  USE TickLabInfoSystem;  -- CREATE TABLE  -- Project Fund Contributor  CREATE TABLE ProjectFundContributor (  projectFundContributor INT NOT NULL,  PRIMARY KEY(projectFundContributor)  );  -- Person  CREATE TABLE Person (  profileNumber INT NOT NULL,  username TEXT,  passwd TEXT,  gender BIT,  permanentAddress TEXT,  dateOfBirth DATE,  firstName TEXT,  middleName TEXT,  lastName TEXT,  nationality TEXT,  nationalIDNumber VARCHAR(9),  nationalIDIssueDate DATE,  passportNumber TEXT,  passportPlaceOfIssue TEXT,  passportDateOfIssue DATE,  passportDateOfExpiry DATE,  profilePhotoURL TEXT,  projectFundContributor INT,  PRIMARY KEY(profileNumber),  FOREIGN KEY(projectFundContributor) REFERENCES ProjectFundContributor(projectFundContributor)  );  -- TickLab ID CARD  CREATE TABLE TickLabIDCard (  profileNumber INT NOT NULL,  dateOfIssue DATE NOT NULL,  rfidNumber VARCHAR(9) NOT NULL,  PRIMARY KEY(profileNumber, dateOfIssue, rfidNumber),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- Contact address  CREATE TABLE PersonContactAddress (  profileNumber INT NOT NULL,  contactAddress VARCHAR(256) NOT NULL,  PRIMARY KEY(profileNumber, contactAddress),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- Email address  CREATE TABLE PersonEmailAddress (  profileNumber INT NOT NULL,  emailAddress VARCHAR(256) NOT NULL,  PRIMARY KEY(profileNumber, emailAddress),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- System roles  CREATE TABLE PersonSystemRole (  profileNumber INT NOT NULL,  systemRole VARCHAR(256) NOT NULL,  PRIMARY KEY(profileNumber, systemRole),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- Person related documents  CREATE TABLE PersonRelatedDoc (  profileNumber INT NOT NULL,  personDocumentURL VARCHAR(256) NOT NULL,  PRIMARY KEY(profileNumber, personDocumentURL),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- Person phone number  CREATE TABLE PersonPhoneNumber (  profileNumber INT NOT NULL,  phoneNumber VARCHAR(11) NOT NULL,  PRIMARY KEY(profileNumber, phoneNumber),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- Department  CREATE TABLE Department (  departmentID INT NOT NULL,  departmentName TEXT,  departmentDescription TEXT,  PRIMARY KEY(departmentID)  );  -- Project  CREATE TABLE Project (  projectID INT NOT NULL,  projectName TEXT,  projectStartTime DATE,  projectEndTime DATE,  projectStatus TEXT,  expectedFinishTime DATE,  projectDescription TEXT,  TickLabBudget MONEY,  projectManager INT,  ofDepartment INT,  PRIMARY KEY(projectID),  FOREIGN KEY(projectManager) REFERENCES Person(profileNumber),  FOREIGN KEY(ofDepartment) REFERENCES Department(departmentID)  );  -- Project's paricipant  CREATE TABLE ProjectParticipant (  participantID INT NOT NULL,  projectID INT,  profileNumber INT,  formDate DATE,  toDate DATE,  PRIMARY KEY(participantID),  FOREIGN KEY(projectID) REFERENCES Project(projectID),  FOREIGN KEY(profileNumber) REFERENCES Person(profileNumber)  );  -- Project related documents  CREATE TABLE ProjectRelatedDoc (  projectID INT NOT NULL,  projectDocumentURL VARCHAR(256) NOT NULL,  PRIMARY KEY(projectID, projectDocumentURL),  FOREIGN KEY(projectID) REFERENCES Project(projectID)  );  -- Contributing  CREATE TABLE Contributing (  projectFundContributor INT NOT NULL,  projectID INT NOT NULL,  contributingDate DATETIME,  amountOfMoney MONEY,  PRIMARY KEY(projectFundContributor, projectID),  FOREIGN KEY(projectFundContributor) REFERENCES ProjectFundContributor(projectFundContributor),  FOREIGN KEY(projectID) REFERENCES Project(projectID)  );  -- Internal project  CREATE TABLE InternalProject (  internalProjectID INT NOT NULL,  PRIMARY KEY(internalProjectID),  FOREIGN KEY(internalProjectID) REFERENCES Project(projectID)  );  -- Community activity  CREATE TABLE CommunityActivity (  communityID INT NOT NULL,  place TEXT,  PRIMARY KEY(communityID)  );  -- Seminar workshop  CREATE TABLE SeminarWorkshop (  projectID INT NOT NULL,  topic TEXT,  communityID INT,  FOREIGN KEY(projectID) REFERENCES Project(projectID),  FOREIGN KEY(communityID) REFERENCES CommunityActivity(communityID)  );  -- Interview  CREATE TABLE Interview (  projectID INT,  requirement TEXT,  communityID INT,  FOREIGN KEY(projectID) REFERENCES Project(projectID),  FOREIGN KEY(communityID) REFERENCES CommunityActivity(communityID)  );  -- Application form  CREATE TABLE ApplicationForm (  communityIDForm INT NOT NULL,  formID INT NOT NULL,  formFirstName TEXT,  formMiddleName TEXT,  formLastName TEXT,  formGender BIT,  formDateOfBirth DATE,  formPhoneNumber VARCHAR(11),  formContactAddress TEXT,  formSocialAccount TEXT,  formEmail TEXT,  formCVURL TEXT,  PRIMARY KEY(communityIDForm, formID),  FOREIGN KEY(communityIDForm) REFERENCES CommunityActivity(communityID)  );  -- Company  CREATE TABLE Company (  taxIDNumber VARCHAR(9) NOT NULL,  conpanyName TEXT,  companyDescription TEXT,  projectFundContributor INT,  PRIMARY KEY(taxIDNumber),  FOREIGN KEY(projectFundContributor) REFERENCES ProjectFundContributor(projectFundContributor)  );  -- Company related documents  CREATE TABLE CompanyRelatedDoc (  taxIDNumber VARCHAR(9) NOT NULL,  companyDocumentURL VARCHAR(256) NOT NULL,  PRIMARY KEY(taxIDNumber, companyDocumentURL),  FOREIGN KEY(taxIDNumber) REFERENCES Company(taxIDNumber)  );  -- Position  CREATE TABLE WorkPosition (  posID INT NOT NULL,  posName TEXT,  posDescription TEXT,  posInDepartment INT,  PRIMARY KEY(posID),  FOREIGN KEY(posInDepartment) REFERENCES Department(departmentID)  );  -- Person take position  CREATE TABLE Taking (  profileNumberTake INT NOT NULL,  posIDTake INT NOT NULL,  takeFromDate DATE,  takeToDate DATE,  PRIMARY KEY(profileNumberTake, posIDTake),  FOREIGN KEY(profileNumberTake) REFERENCES Person(profileNumber),  FOREIGN KEY(posIDTake) REFERENCES WorkPosition(posID)  );  -- Task  CREATE TABLE Task (  taskID INT NOT NULL,  taskStartTime DATE,  taskEndTime DATE,  whatToDo TEXT,  taskDescription TEXT,  taskStatus TEXT,  ofProject INT,  PRIMARY KEY(taskID),  FOREIGN KEY(ofProject) REFERENCES Project(projectID)  );  -- Task's participant  CREATE TABLE TaskParticipant (  participantID INT NOT NULL,  taskID INT NOT NULL,  fromDate DATE,  toDate DATE,  PRIMARY KEY(participantID, taskID),  FOREIGN KEY(participantID) REFERENCES Participate(participantID),  FOREIGN KEY(taskID) REFERENCES Task(taskID)  );  -- Task remake  CREATE TABLE TaskRemark (  taskID INT NOT NULL,  taskRemark VARCHAR(256) NOT NULL,  PRIMARY KEY(taskID, taskRemark),  FOREIGN KEY(taskID) REFERENCES Task(taskID)  );  -- Duty  CREATE TABLE Duty (  dutyID INT NOT NULL,  dutyName TEXT,  shift TEXT,  dutyDescription TEXT,  PRIMARY KEY(dutyID)  );  -- Has to do duty  CREATE TABLE HaveToDoDuty (  profileNumberDuty INT NOT NULL,  dutyID INT NOT NULL,  PRIMARY KEY(profileNumberDuty, dutyID),  FOREIGN KEY(profileNumberDuty) REFERENCES Person(profileNumber),  FOREIGN KEY(dutyID) REFERENCES Duty(dutyID)  );  -- Infrastructures  CREATE TABLE Infrastructure (  infraID INT NOT NULL,  infraName TEXT,  totalNumber INT,  numberOfAvailable INT,  infraDescription TEXT,  PRIMARY KEY(infraID)  );  -- Borrow record  CREATE TABLE BorrowRecord (  borrowID INT NOT NULL,  borrowDate DATE,  borrowStatus BIT,  borrower INT,  PRIMARY KEY(borrowID),  FOREIGN KEY(borrower) REFERENCES Person(profileNumber)  );  -- Include  CREATE TABLE Including (  borrowIDInclude INT NOT NULL,  infraIDInclude INT NOT NULL,  numberOfItem INT,  dueDate DATE,  returnDate DATE,  PRIMARY KEY(borrowIDInclude, infraIDInclude),  FOREIGN KEY(borrowIDInclude) REFERENCES BorrowRecord(borrowID),  FOREIGN KEY(infraIDInclude) REFERENCES Infrastructure(infraID)  );  -- Fund  CREATE TABLE Fund (  fundID INT NOT NULL,  currentBudget MONEY,  originalCapital MONEY,  treasurer INT,  PRIMARY KEY(fundID),  FOREIGN KEY(treasurer) REFERENCES Person(profileNumber)  );  -- Revenue category  CREATE TABLE RevenueCategory (  revenueID INT NOT NULL,  revenueName TEXT,  moneyHaveToPay MONEY,  moneyPay MONEY,  moneyRest MONEY,  revenueDeadline DATE,  revenueDescription TEXT,  fundIDRevenue INT,  PRIMARY KEY(revenueID),  FOREIGN KEY(fundIDRevenue) REFERENCES Fund(fundID)  );  -- Expediture category  CREATE TABLE ExpeditureCategory (  expeditureID INT NOT NULL,  expeditureName TEXT,  expeditureDate DATE,  expeditureMoney MONEY,  expeditureDescription TEXT,  fundIDExpediture INT,  PRIMARY KEY(expeditureID),  FOREIGN KEY(fundIDExpediture) REFERENCES Person(profileNumber)  );  -- Have to pay  CREATE TABLE HaveToPay (  profileNumberPay INT NOT NULL,  revenueIDPay INT NOT NULL,  weighting FLOAT,  amount INT,  PRIMARY KEY(profileNumberPay, revenueIDPay),  FOREIGN KEY(profileNumberPay) REFERENCES Person(profileNumber),  FOREIGN KEY(revenueIDPay) REFERENCES RevenueCategory(revenueID)  ); 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1. Các câu lệnh tạo chỉ mục:

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| -- Create index on Person table  CREATE INDEX PersonIndex ON Person(profileNumber)  -- Create index on Project table  CREATE INDEX Project ON Project(projectID) |

1. Các câu lệnh insert dữ liệu:

Chèn dữ liệu vào bảng Person

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| --- |
| INSERT INTO Person VALUES(0, 'ethan.roberts1112', 'eY5FXIcs3Gw5', 1, NULL, CONVERT(DATETIME, 11-12-2000, 105), 'Ethan', NULL, 'Roberts', 'Viet Nam', '618927954', CONVERT(DATETIME, 03-04-2017, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(1, 'mia.johnson1510', 'P2rNvS0cS4Qei6f94K61S', 1, NULL, CONVERT(DATETIME, 15-10-1989, 105), 'Mia', NULL, 'Johnson', 'Viet Nam', '637882913', CONVERT(DATETIME, 23-08-2006, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(2, 'mason.rodriguez287', '52f3cE67a20oYf', 1, NULL, CONVERT(DATETIME, 28-07-1983, 105), 'Mason', NULL, 'Rodriguez', 'Viet Nam', '777335998', CONVERT(DATETIME, 06-01-2000, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(3, 'margaret.rodriguez113', '2048jo14', 0, NULL, CONVERT(DATETIME, 11-03-1999, 105), 'Margaret', NULL, 'Rodriguez', 'Viet Nam', '618984143', CONVERT(DATETIME, 08-07-2015, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(4, 'sarah.rodriguez89', 't1nY619SN8fUxrBN0ok18', 1, NULL, CONVERT(DATETIME, 08-09-1992, 105), 'Sarah', NULL, 'Rodriguez', 'Viet Nam', '722828907', CONVERT(DATETIME, 07-12-2009, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(5, 'mason.wilson115', 'w259cpal7u503ZltKCWR', 1, NULL, CONVERT(DATETIME, 11-05-1999, 105), 'Mason', NULL, 'Wilson', 'Viet Nam', '229419698', CONVERT(DATETIME, 26-06-2014, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(6, 'daniel.taylor222', 'J3WXRbDg', 0, NULL, CONVERT(DATETIME, 22-02-1991, 105), 'Daniel', NULL, 'Taylor', 'Viet Nam', '582544161', CONVERT(DATETIME, 05-12-2008, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(7, 'richard.rodriguez2810', '3hMNE9X342p45ec8782J', 0, NULL, CONVERT(DATETIME, 28-10-1996, 105), 'Richard', NULL, 'Rodriguez', 'Viet Nam', '444429307', CONVERT(DATETIME, 25-07-2012, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(8, 'ethan.williams283', 'e795AU1Chf260', 1, NULL, CONVERT(DATETIME, 28-03-1987, 105), 'Ethan', NULL, 'Williams', 'Viet Nam', '034005310', CONVERT(DATETIME, 01-12-2004, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(9, 'barbara.wilson159', 'EMD8j8hSqo063oeDP5N32T7D4OM', 0, NULL, CONVERT(DATETIME, 15-09-1993, 105), 'Barbara', NULL, 'Wilson', 'Viet Nam', '111730048', CONVERT(DATETIME, 02-09-2009, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(10, 'liam.thomas16', 'H0r0Km7WqgOAMwDyxtbH2Yc1bP', 1, NULL, CONVERT(DATETIME, 01-06-1994, 105), 'Liam', NULL, 'Thomas', 'Viet Nam', '265324442', CONVERT(DATETIME, 03-06-2010, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(11, 'david.taylor244', 'v34Rj165IXz76KU', 0, NULL, CONVERT(DATETIME, 24-04-1982, 105), 'David', NULL, 'Taylor', 'Viet Nam', '103155221', CONVERT(DATETIME, 05-01-1998, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(12, 'liam.miller2512', '20i51u0pNwma95Nhqr6L1', 1, NULL, CONVERT(DATETIME, 25-12-1989, 105), 'Liam', NULL, 'Miller', 'Viet Nam', '034175332', CONVERT(DATETIME, 19-10-2004, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(13, 'isabella.jones177', 'cVa1M0Hwbz8W5rMmH356bR9', 0, NULL, CONVERT(DATETIME, 17-07-1989, 105), 'Isabella', NULL, 'Jones', 'Viet Nam', '505880132', CONVERT(DATETIME, 08-09-2005, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(14, 'jacob.rodriguez224', '95Pib3bG088O3KB', 0, NULL, CONVERT(DATETIME, 22-04-1990, 105), 'Jacob', NULL, 'Rodriguez', 'Viet Nam', '356583948', CONVERT(DATETIME, 18-12-2005, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(15, 'mary.davies141', 'X9U45w8Q3iiFdU4oQU5', 1, NULL, CONVERT(DATETIME, 14-01-1987, 105), 'Mary', NULL, 'Davies', 'Viet Nam', '015176002', CONVERT(DATETIME, 31-10-2003, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(16, 'mary.brown281', 'U6W3EUk546zZOD03z9zZf2', 1, NULL, CONVERT(DATETIME, 28-01-1997, 105), 'Mary', NULL, 'Brown', 'Viet Nam', '389287014', CONVERT(DATETIME, 12-02-2013, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(17, 'charlotte.wilson104', 'j7laa2RSiDT037ejtHc8bExXg6', 1, NULL, CONVERT(DATETIME, 10-04-1984, 105), 'Charlotte', NULL, 'Wilson', 'Viet Nam', '089360697', CONVERT(DATETIME, 05-04-2000, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(18, 'richard.johnson76', 'Tw6og5ZvqXwm7y', 0, NULL, CONVERT(DATETIME, 07-06-1980, 105), 'Richard', NULL, 'Johnson', 'Viet Nam', '049460362', CONVERT(DATETIME, 09-02-1996, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(19, 'isabella.wilson34', '2B9m8f6A8C7NYq28wybacKKk98C', 0, NULL, CONVERT(DATETIME, 03-04-1997, 105), 'Isabella', NULL, 'Wilson', 'Viet Nam', '072552148', CONVERT(DATETIME, 08-03-2013, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(20, 'thomas.smith2110', 'HoM4yAxvh0iEsgHJ430sn34', 0, NULL, CONVERT(DATETIME, 21-10-2000, 105), 'Thomas', NULL, 'Smith', 'Viet Nam', '662904931', CONVERT(DATETIME, 19-10-2015, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(21, 'emma.taylor262', '4TpnpyGiOqW25Q2OeS7vipL', 0, NULL, CONVERT(DATETIME, 26-02-1980, 105), 'Emma', NULL, 'Taylor', 'Viet Nam', '298227858', CONVERT(DATETIME, 23-12-1995, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(22, 'emily.miller113', 'gmKIdOk8qIPO5M', 1, NULL, CONVERT(DATETIME, 11-03-1997, 105), 'Emily', NULL, 'Miller', 'Viet Nam', '934788163', CONVERT(DATETIME, 08-12-2013, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(23, 'isabella.williams36', 'SabLm0m9j342t70m', 1, NULL, CONVERT(DATETIME, 03-06-1996, 105), 'Isabella', NULL, 'Williams', 'Viet Nam', '037395972', CONVERT(DATETIME, 23-07-2013, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(24, 'ava.davies288', 'GSe81t5j0ij68N56oWiYTD28h4', 0, NULL, CONVERT(DATETIME, 28-08-1989, 105), 'Ava', NULL, 'Davies', 'Viet Nam', '272584739', CONVERT(DATETIME, 04-10-2005, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(25, 'isabella.davis211', 'R4j0jm9HeQaudCJcYfVi6E', 0, NULL, CONVERT(DATETIME, 21-01-1994, 105), 'Isabella', NULL, 'Davis', 'Viet Nam', '898999420', CONVERT(DATETIME, 10-08-2011, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(26, 'patricia.davis2612', 'b1U3qlBwX9as4H0GNp5kmU', 1, NULL, CONVERT(DATETIME, 26-12-1989, 105), 'Patricia', NULL, 'Davis', 'Viet Nam', '079158639', CONVERT(DATETIME, 14-02-2004, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(27, 'joseph.roberts225', 'leJmnry9Ir9WcX23', 0, NULL, CONVERT(DATETIME, 22-05-1980, 105), 'Joseph', NULL, 'Roberts', 'Viet Nam', '075531888', CONVERT(DATETIME, 28-04-1996, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(28, 'charlotte.smith303', 'h2CNUNDfmZATck8Yz', 0, NULL, CONVERT(DATETIME, 30-03-1989, 105), 'Charlotte', NULL, 'Smith', 'Viet Nam', '311257621', CONVERT(DATETIME, 10-02-2005, 105), NULL, NULL, NULL, NULL, NULL, NULL);  INSERT INTO Person VALUES(29, 'linda.smith3112', 'L4GfP7kC1d6XZ01v32xiFFc9', 0, NULL, CONVERT(DATETIME, 31-12-1991, 105), 'Linda', NULL, 'Smith', 'Viet Nam', '518368861', CONVERT(DATETIME, 20-01-2007, 105), NULL, NULL, NULL, NULL, NULL, NULL); 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| INSERT INTO WorkPosition VALUES(0, 'IT Staff', NULL, 0);  INSERT INTO WorkPosition VALUES(1, 'IT Vice Leader', NULL, 0);  INSERT INTO WorkPosition VALUES(2, 'IT Leader', NULL, 0);  INSERT INTO WorkPosition VALUES(3, 'HR Staff', NULL, 1);  INSERT INTO WorkPosition VALUES(4, 'HR Vice Leader', NULL, 1);  INSERT INTO WorkPosition VALUES(5, 'HR Leader', NULL, 1);  INSERT INTO WorkPosition VALUES(6, 'EE Staff', NULL, 2);  INSERT INTO WorkPosition VALUES(7, 'EE Vice Leader', NULL, 2);  INSERT INTO WorkPosition VALUES(8, 'EE Leader', NULL, 2);  INSERT INTO WorkPosition VALUES(9, 'ME Staff', NULL, 3);  INSERT INTO WorkPosition VALUES(10, 'ME Vice Leader', NULL, 3);  INSERT INTO WorkPosition VALUES(11, 'ME Leader', NULL, 3);  INSERT INTO WorkPosition VALUES(12, 'Director', NULL, 4);  INSERT INTO WorkPosition VALUES(13, 'Vice Director', NULL, 4);  INSERT INTO WorkPosition VALUES(14, 'Treasurer', NULL, 4); |

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| INSERT INTO Department VALUES(0, 'IT', NULL);  INSERT INTO Department VALUES(1, 'HR', NULL);  INSERT INTO Department VALUES(2, 'EE', NULL);  INSERT INTO Department VALUES(3, 'ME', NULL);  INSERT INTO Department VALUES(4, 'Administration', NULL); |

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| INSERT INTO Taking VALUES(28, 1, NULL, NULL);  INSERT INTO Taking VALUES(8, 2, NULL, NULL);  INSERT INTO Taking VALUES(10, 4, NULL, NULL);  INSERT INTO Taking VALUES(29, 5, NULL, NULL);  INSERT INTO Taking VALUES(1, 7, NULL, NULL);  INSERT INTO Taking VALUES(5, 8, NULL, NULL);  INSERT INTO Taking VALUES(12, 10, NULL, NULL);  INSERT INTO Taking VALUES(14, 11, NULL, NULL);  INSERT INTO Taking VALUES(24, 12, NULL, NULL);  INSERT INTO Taking VALUES(0, 14, NULL, NULL);  INSERT INTO Taking VALUES(20, 13, NULL, NULL);  INSERT INTO Taking VALUES(21, 3, NULL, NULL);  INSERT INTO Taking VALUES(22, 0, NULL, NULL);  INSERT INTO Taking VALUES(4, 3, NULL, NULL);  INSERT INTO Taking VALUES(25, 0, NULL, NULL);  INSERT INTO Taking VALUES(3, 3, NULL, NULL);  INSERT INTO Taking VALUES(6, 6, NULL, NULL);  INSERT INTO Taking VALUES(15, 3, NULL, NULL);  INSERT INTO Taking VALUES(2, 0, NULL, NULL);  INSERT INTO Taking VALUES(18, 6, NULL, NULL);  INSERT INTO Taking VALUES(19, 6, NULL, NULL);  INSERT INTO Taking VALUES(7, 3, NULL, NULL);  INSERT INTO Taking VALUES(27, 6, NULL, NULL);  INSERT INTO Taking VALUES(9, 9, NULL, NULL);  INSERT INTO Taking VALUES(16, 9, NULL, NULL);  INSERT INTO Taking VALUES(13, 3, NULL, NULL);  INSERT INTO Taking VALUES(17, 3, NULL, NULL);  INSERT INTO Taking VALUES(23, 6, NULL, NULL);  INSERT INTO Taking VALUES(26, 9, NULL, NULL);  INSERT INTO Taking VALUES(11, 3, NULL, NULL); |

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| INSERT INTO PersonEmailAddress VALUES(0, 'ethan.roberts1112@gmail.com');  INSERT INTO PersonEmailAddress VALUES(0, 'ethan.roberts1112@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(1, 'mia.johnson1510@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(2, 'mason.rodriguez287@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(2, 'mason.rodriguez287@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(2, 'mason.rodriguez287@gmail.com');  INSERT INTO PersonEmailAddress VALUES(3, 'margaret.rodriguez113@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(3, 'margaret.rodriguez113@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(3, 'margaret.rodriguez113@gmail.com');  INSERT INTO PersonEmailAddress VALUES(4, 'sarah.rodriguez89@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(4, 'sarah.rodriguez89@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(4, 'sarah.rodriguez89@gmail.com');  INSERT INTO PersonEmailAddress VALUES(5, 'mason.wilson115@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(5, 'mason.wilson115@gmail.com');  INSERT INTO PersonEmailAddress VALUES(5, 'mason.wilson115@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(6, 'daniel.taylor222@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(6, 'daniel.taylor222@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(7, 'richard.rodriguez2810@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(8, 'ethan.williams283@gmail.com');  INSERT INTO PersonEmailAddress VALUES(8, 'ethan.williams283@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(9, 'barbara.wilson159@gmail.com');  INSERT INTO PersonEmailAddress VALUES(10, 'liam.thomas16@gmail.com');  INSERT INTO PersonEmailAddress VALUES(11, 'david.taylor244@gmail.com');  INSERT INTO PersonEmailAddress VALUES(11, 'david.taylor244@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(12, 'liam.miller2512@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(12, 'liam.miller2512@gmail.com');  INSERT INTO PersonEmailAddress VALUES(13, 'isabella.jones177@gmail.com');  INSERT INTO PersonEmailAddress VALUES(14, 'jacob.rodriguez224@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(14, 'jacob.rodriguez224@gmail.com');  INSERT INTO PersonEmailAddress VALUES(15, 'mary.davies141@gmail.com');  INSERT INTO PersonEmailAddress VALUES(15, 'mary.davies141@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(15, 'mary.davies141@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(16, 'mary.brown281@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(16, 'mary.brown281@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(17, 'charlotte.wilson104@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(17, 'charlotte.wilson104@gmail.com');  INSERT INTO PersonEmailAddress VALUES(18, 'richard.johnson76@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(19, 'isabella.wilson34@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(19, 'isabella.wilson34@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(20, 'thomas.smith2110@gmail.com');  INSERT INTO PersonEmailAddress VALUES(20, 'thomas.smith2110@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(21, 'emma.taylor262@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(22, 'emily.miller113@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(23, 'isabella.williams36@gmail.com');  INSERT INTO PersonEmailAddress VALUES(23, 'isabella.williams36@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(23, 'isabella.williams36@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(24, 'ava.davies288@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(24, 'ava.davies288@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(24, 'ava.davies288@gmail.com');  INSERT INTO PersonEmailAddress VALUES(25, 'isabella.davis211@gmail.com');  INSERT INTO PersonEmailAddress VALUES(26, 'patricia.davis2612@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(26, 'patricia.davis2612@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(27, 'joseph.roberts225@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(27, 'joseph.roberts225@hotmail.com');  INSERT INTO PersonEmailAddress VALUES(27, 'joseph.roberts225@gmail.com');  INSERT INTO PersonEmailAddress VALUES(28, 'charlotte.smith303@gmail.com');  INSERT INTO PersonEmailAddress VALUES(29, 'linda.smith3112@yahoo.com');  INSERT INTO PersonEmailAddress VALUES(29, 'linda.smith3112@gmail.com');  INSERT INTO PersonEmailAddress VALUES(29, 'linda.smith3112@hotmail.com'); |

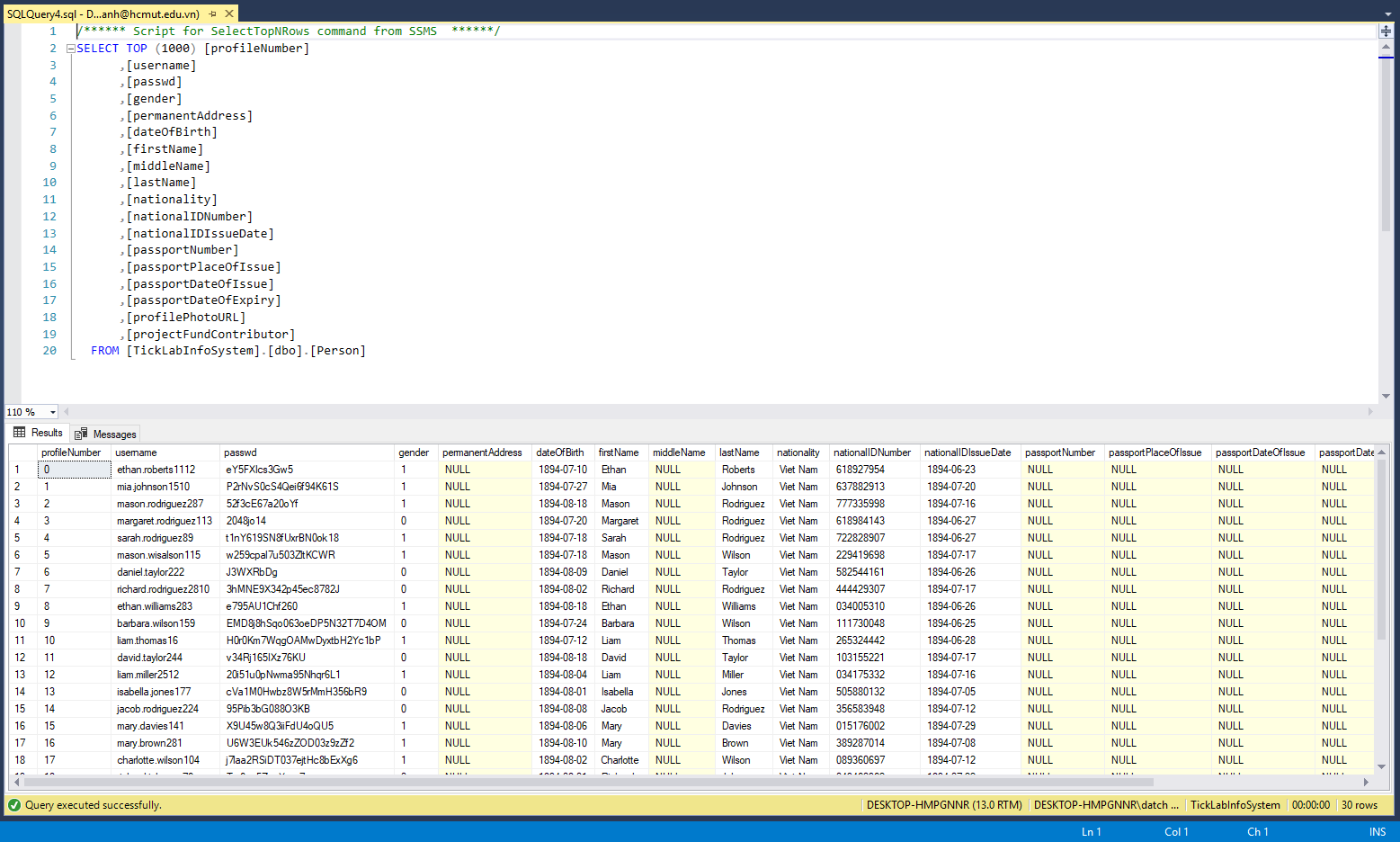
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| INSERT INTO TickLabIDCard VALUES(0, CONVERT(DATETIME, 24-01-2018, 105), '498949875');  INSERT INTO TickLabIDCard VALUES(1, CONVERT(DATETIME, 04-08-2007, 105), '878095690');  INSERT INTO TickLabIDCard VALUES(2, CONVERT(DATETIME, 20-08-2001, 105), '580177467');  INSERT INTO TickLabIDCard VALUES(2, CONVERT(DATETIME, 29-11-2003, 105), '121835714');  INSERT INTO TickLabIDCard VALUES(3, CONVERT(DATETIME, 09-02-2018, 105), '302788597');  INSERT INTO TickLabIDCard VALUES(4, CONVERT(DATETIME, 26-04-2014, 105), '137127534');  INSERT INTO TickLabIDCard VALUES(4, CONVERT(DATETIME, 22-01-2010, 105), '141266330');  INSERT INTO TickLabIDCard VALUES(5, CONVERT(DATETIME, 25-08-2018, 105), '816980139');  INSERT INTO TickLabIDCard VALUES(5, CONVERT(DATETIME, 29-04-2017, 105), '655405065');  INSERT INTO TickLabIDCard VALUES(6, CONVERT(DATETIME, 10-01-2009, 105), '622505252');  INSERT INTO TickLabIDCard VALUES(6, CONVERT(DATETIME, 18-06-2013, 105), '280068306');  INSERT INTO TickLabIDCard VALUES(7, CONVERT(DATETIME, 22-08-2017, 105), '520756181');  INSERT INTO TickLabIDCard VALUES(8, CONVERT(DATETIME, 09-09-2007, 105), '926523212');  INSERT INTO TickLabIDCard VALUES(8, CONVERT(DATETIME, 20-09-2008, 105), '874005995');  INSERT INTO TickLabIDCard VALUES(9, CONVERT(DATETIME, 27-10-2013, 105), '511123397');  INSERT INTO TickLabIDCard VALUES(9, CONVERT(DATETIME, 18-06-2011, 105), '048439249');  INSERT INTO TickLabIDCard VALUES(10, CONVERT(DATETIME, 02-06-2013, 105), '766309080');  INSERT INTO TickLabIDCard VALUES(11, CONVERT(DATETIME, 19-06-2001, 105), '395896257');  INSERT INTO TickLabIDCard VALUES(12, CONVERT(DATETIME, 29-03-2011, 105), '930251577');  INSERT INTO TickLabIDCard VALUES(12, CONVERT(DATETIME, 02-09-2010, 105), '785788423');  INSERT INTO TickLabIDCard VALUES(13, CONVERT(DATETIME, 26-06-2010, 105), '041772131');  INSERT INTO TickLabIDCard VALUES(13, CONVERT(DATETIME, 28-10-2007, 105), '150512215');  INSERT INTO TickLabIDCard VALUES(14, CONVERT(DATETIME, 22-07-2012, 105), '284275840');  INSERT INTO TickLabIDCard VALUES(14, CONVERT(DATETIME, 28-07-2008, 105), '358410334');  INSERT INTO TickLabIDCard VALUES(15, CONVERT(DATETIME, 18-05-2005, 105), '560983579');  INSERT INTO TickLabIDCard VALUES(15, CONVERT(DATETIME, 08-01-2006, 105), '740235416');  INSERT INTO TickLabIDCard VALUES(16, CONVERT(DATETIME, 18-11-2015, 105), '912499376');  INSERT INTO TickLabIDCard VALUES(17, CONVERT(DATETIME, 24-01-2004, 105), '977165013');  INSERT INTO TickLabIDCard VALUES(18, CONVERT(DATETIME, 09-07-1998, 105), '744906119');  INSERT INTO TickLabIDCard VALUES(18, CONVERT(DATETIME, 27-06-2001, 105), '197093331');  INSERT INTO TickLabIDCard VALUES(19, CONVERT(DATETIME, 31-03-2016, 105), '598839513');  INSERT INTO TickLabIDCard VALUES(19, CONVERT(DATETIME, 28-03-2018, 105), '819813343');  INSERT INTO TickLabIDCard VALUES(20, CONVERT(DATETIME, 18-08-2018, 105), '176173060');  INSERT INTO TickLabIDCard VALUES(21, CONVERT(DATETIME, 25-05-1999, 105), '720954325');  INSERT INTO TickLabIDCard VALUES(22, CONVERT(DATETIME, 28-02-2017, 105), '157579237');  INSERT INTO TickLabIDCard VALUES(23, CONVERT(DATETIME, 17-12-2014, 105), '638106876');  INSERT INTO TickLabIDCard VALUES(23, CONVERT(DATETIME, 20-11-2014, 105), '956154138');  INSERT INTO TickLabIDCard VALUES(24, CONVERT(DATETIME, 22-02-2007, 105), '133529048');  INSERT INTO TickLabIDCard VALUES(25, CONVERT(DATETIME, 14-03-2013, 105), '030321108');  INSERT INTO TickLabIDCard VALUES(25, CONVERT(DATETIME, 09-04-2012, 105), '289230282');  INSERT INTO TickLabIDCard VALUES(26, CONVERT(DATETIME, 13-02-2011, 105), '249882717');  INSERT INTO TickLabIDCard VALUES(26, CONVERT(DATETIME, 25-06-2009, 105), '340153423');  INSERT INTO TickLabIDCard VALUES(27, CONVERT(DATETIME, 06-05-2001, 105), '249044985');  INSERT INTO TickLabIDCard VALUES(27, CONVERT(DATETIME, 24-10-2002, 105), '017198832');  INSERT INTO TickLabIDCard VALUES(28, CONVERT(DATETIME, 27-10-2007, 105), '834020121');  INSERT INTO TickLabIDCard VALUES(29, CONVERT(DATETIME, 22-03-2011, 105), '805889573'); |

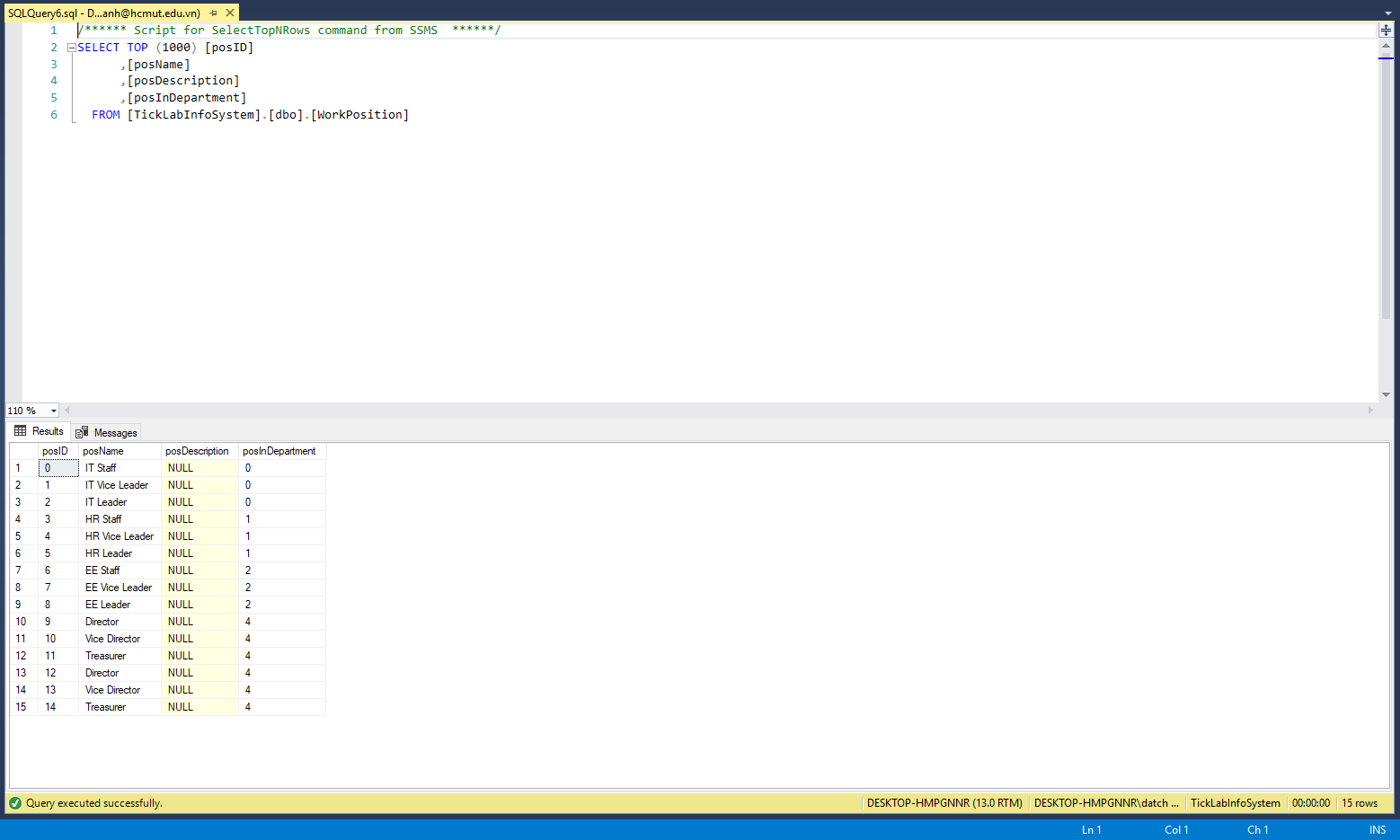
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Các câu lệnh truy vấn bảng và dữ liệu được hiển thị sau khi thực hiện insert, màn hình hiển thị kết quả dự liệu của các bảng từ DBMS:





1. Phần riêng

**Thành viên 1:**

**Họ tên: Huỳnh Hoàng Kha**

**MSSV: 1511449**

1. Thủ tục chèn dữ liệu:

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1. Trigger:
2. Thủ tục chứa câu SQL:
3. A
4. A

**Thành viên 2:**

**Họ tên: Châu Thành Đạt**

**MSSV: 1710934**

1. Thủ tục insert dữ liệu:

Thủ tục chèn dữ liệu vào bảng Department có kiểm tra khoá chính NULL hoặc đã tồn tại hay không

|  |
| --- |
| CREATE PROC UP\_InsertDepartment  @departmentID INT,  @departmentName TEXT,  @departmentDescription TEXT  AS  BEGIN  IF @departmentID IS NULL  PRINT N'Khoa chinh NULL'  ELSE IF EXISTS(SELECT departmentID FROM Department WHERE departmentID = @departmentID)  PRINT N'Khoa chinh da ton tai'  ELSE  INSERT INTO Department VALUES(@departmentID, @departmentName, @departmentDescription)  END  GO |

1. Trigger:

Before trigger không cho phép xoá thông tin trong bảng Taking của thành viên thuộc phòng ban Administrator

|  |
| --- |
| CREATE TRIGGER UTG\_DeleteTaking  ON Taking  FOR DELETE  AS  BEGIN  DECLARE @Count INT  SELECT @Count = COUNT(\*)  FROM DELETED  WHERE DELETED.posIDTake >= 9 AND DELETED.posIDTake <= 14  IF @Count > 0 ROLLBACK TRAN  END  GO |

After trigger cập nhật số tiền quỹ trong bảng Fund khi thêm một khoản chi trong bảng ExpeditureCategory

|  |
| --- |
| CREATE TRIGGER UTG\_InsertExpeditureCategory  ON ExpeditureCategory  FOR INSERT  AS  BEGIN  DECLARE @ExpeditureMoney MONEY  SELECT @ExpeditureMoney = INSERTED.expeditureMoney FROM INSERTED  UPDATE Fund  SET currentBudget -= @ExpeditureMoney  WHERE fundID = 0  END  GO |

1. Thủ tục chứa câu SQL:

Thủ tục truy suất tên của người có chức vụ cần tìm

|  |
| --- |
| CREATE PROC UP\_SelectWhoTakingPosition  @posName VARCHAR(256)  AS  BEGIN  DECLARE  @posID INT  SELECT @posID = posID FROM WorkPosition WHERE posName = @posName  SELECT lastName, middleName, firstName  FROM Person  WHERE profileNumber = (SELECT profileNumberTake FROM Taking WHERE profileNumberTake = @posID)  ORDER BY firstName  END  GO |

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1. Hàm

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1. Giao diện ứng dụng và các hình ảnh minh hoạ

Giao diện: <mô tả giao diện>

<các ảnh minh hoạ>

**Thành viên 3:**

**Họ tên: Nguyễn Ngọc Duy Phong**

**MSSV:**

1. Thủ tục chèn dữ liệu
2. Trigger
3. Thủ tục chứa câu SQL
4. Hàm
5. Phụ lục
6. Báo cáo bài tập lớn số 1
7. Source code chương trình
8. Bảng phân công nhiệm vụ cho phần chung và bài tập lớn số 1