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# Question 1:

1. Create EMPLOYEE table with the most appropriate/economic field/column constraints & types. All fields are mandatory except Note field.

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| CREATE TABLE EMPLOYEE  (  EmpNo int NOT NULL PRIMARY KEY,  EmpName nvarchar(50) NOT NULL,  BirthDay date NOT NULL,  DeptNo tinyint NOT NULL,  MgrNo int NOT NULL,  StartDate date NOT NULL,  Salary money NOT NULL,  Emp\_Level tinyint NOT NULL CHECK(Emp\_Level >= 1 AND Emp\_Level <= 7),  Emp\_Status tinyint NOT NULL CHECK(Emp\_Status >= 0 AND Emp\_Status <= 2),  Note nvarchar(100)  ) |

1. Create SKILL table with the most appropriate/economic field/column constraints & types, all fields are mandatory except Note field.

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| CREATE TABLE SKILL  (  SkillNo tinyint Identity(1,1) NOT NULL PRIMARY KEY,  SkillName nvarchar(50) NOT NULL,  Note nvarchar(100)  ) |

1. Create DEPARTMENT table with the most appropriate/economic field/column constraints & types, all fields are mandatory except Note field.

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| CREATE TABLE DEPARTMENT  (  DeptNo tinyint Identity(1,1) NOT NULL PRIMARY KEY,  DeptName nvarchar(50) NOT NULL,  Note nvarchar(100)  ) |

1. Create EMP\_SKILL table with the most appropriate/economic field/column constraints & types, all fields are mandatory except Description field.

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| CREATE TABLE EMP\_SKILL  (  SkillNo tinyint NOT NULL FOREIGN KEY REFERENCES SKILL(SkillNo),  EmpNo int NOT NULL FOREIGN KEY REFERENCES EMPLOYEE(EmpNo),  SkillLevel tinyint NOT NULL CHECK(SkillLevel >= 1 AND SkillLevel <= 3),  RegDate date NOT NULL,  Descriptions nvarchar(100)  CONSTRAINT [PK\_EMP\_SKILL] PRIMARY KEY(SkillNo, EmpNo)  ) |

# Question 2:

1. Add an Email field to EMPLOYEE table and make sure that the database will not allow the value for Email to be inserted into a new row if that value has already been used in another row.

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| ALTER TABLE dbo.EMPLOYEE ADD Email varchar(50) NOT NULL UNIQUE |

1. Modify EMPLOYEE table to set default values to 0 of MgrNo and Status fields.

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| ALTER TABLE dbo.EMPLOYEE ADD CONSTRAINT DF\_EMPLOYEE\_MgrNo DEFAULT 0 FOR MgrNo  ALTER TABLE dbo.EMPLOYEE ADD CONSTRAINT DF\_EMPLOYEE\_Emp\_Status DEFAULT 0 FOR Emp\_Status |

# Question 3:

1. Add the FOREIGN KEY constrain of DeptNo field to the EMPLOYEE table that will relate the DEPARTMENT table.

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| ALTER TABLE EMPLOYEE ADD CONSTRAINT FK\_EMPLOYEE\_DEPARTMENT FOREIGN KEY(DeptNo) REFERENCES DEPARTMENT(DeptNo) |

1. Remove the Description field from the EMP\_SKILL table.

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| ALTER TABLE EMP\_SKILL DROP COLUMN Descriptions |

# Question 4:

1. Add at least 5 records into each the created tables.

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| INSERT INTO DEPARTMENT(DeptName, Note) VALUES(N'Software Engineering', N'SE')  INSERT INTO DEPARTMENT(DeptName, Note) VALUES(N'Network and Telecommunication', N'NT')  INSERT INTO DEPARTMENT(DeptName, Note) VALUES(N'Information System', N'IS')  INSERT INTO DEPARTMENT(DeptName, Note) VALUES(N'Computer Engineering', N'CE')  INSERT INTO DEPARTMENT(DeptName, Note) VALUES(N'Computer Science', N'CS')  SET DATEFORMAT DMY;  INSERT INTO EMPLOYEE(EmpNo, EmpName, BirthDay, DeptNo, MgrNo, StartDate, Salary, Emp\_Level, Emp\_Status, Note, Email)  VALUES(1, N'Nguyễn Hải Đăng', '24/08/1994', 1, 12520554, '06/07/2015', 0, 4, 0, N'submit assignment late', 'nguyenhaidang@gmail.com')  INSERT INTO EMPLOYEE(EmpNo, EmpName, BirthDay, DeptNo, MgrNo, StartDate, Salary, Emp\_Level, Emp\_Status, Note, Email)  VALUES(2, N'Lê Quang Vinh', '26/08/1993', 3, 12520510, '06/07/2015', 0, 3, 2, N'take off', 'lequangvinh@gmail.com')  INSERT INTO EMPLOYEE(EmpNo, EmpName, BirthDay, DeptNo, MgrNo, StartDate, Salary, Emp\_Level, Emp\_Status, Note, Email)  VALUES(3, N'Phạm Nam Trường', '13/04/1994', 1, 12520472, '06/07/2015', 0, 5, 0, N'have good ideas', 'phamnamtruong@gmail.com')  INSERT INTO EMPLOYEE(EmpNo, EmpName, BirthDay, DeptNo, MgrNo, StartDate, Salary, Emp\_Level, Emp\_Status, Note, Email)  VALUES(4, N'Hoàng Xuân Thiên', '17/08/1992', 1, 12520411, '06/07/2015', 0, 6, 0, N'good skills', 'hoangxuanthien@gmail.com')  INSERT INTO EMPLOYEE(EmpNo, EmpName, BirthDay, DeptNo, MgrNo, StartDate, Salary, Emp\_Level, Emp\_Status, Note, Email)  VALUES(5, N'Dư Phát Tài', '21/09/1994', 5, 12520367, '06/07/2015', 0, 6, 0, N'good skills', 'duphattai@gmail.com')  INSERT INTO SKILL(SkillName, Note) VALUES(N'Requirement and design', N'RnD')  INSERT INTO SKILL(SkillName, Note) VALUES(N'Coding and Unit test', N'CnU')  INSERT INTO SKILL(SkillName, Note) VALUES(N'Bacsic SQL', N'BSQL')  INSERT INTO SKILL(SkillName, Note) VALUES(N'Advanced SQL', N'ASQL')  INSERT INTO SKILL(SkillName, Note) VALUES(N'Basic .NET', N'BTNB')  INSERT INTO SKILL(SkillName, Note) VALUES(N'Advanced .NET', N'ATNB')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(1, 3, 1, '06/07/2015')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(1, 4, 2, '13/07/2015')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(2, 1, 2, '06/07/2015')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(3, 2, 2, '06/07/2015')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(4, 3, 2, '06/07/2015')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(4, 5, 1, '20/07/2015')  INSERT INTO EMP\_SKILL(SkillNo, EmpNo, SkillLevel, RegDate) VALUES(5, 5, 2, '20/07/2015') |

1. Create a VIEW called EMPLOYEE\_TRACKING that will appear to the user as EmpNo, Emp\_Name and Level. It has Level satisfied the criteria: Level >=3 and Level <= 5.

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| CREATE VIEW dbo. view\_EMPLOYEE\_TRACKING  AS  SELECT EMPLOYEE.EmpNo, EMPLOYEE.EmpName, EMPLOYEE.Emp\_Level  FROM EMPLOYEE  WHERE EMPLOYEE.Emp\_Level >= 3 AND EMPLOYEE.Emp\_Level <= 5 |

