

**DAMG 6210 SP 24 Online Q2 2nd Last Digit 0,1,2,3,4 or 7**

**Please include your name and NUID in the submitted .sql file.**

**We will use AdventureWorks2008R2 for Question 1.**

**The following tables will be used for Question 2.  
You need to create these tables in your own database.**

```
create table department
(departmentid int primary key,
departmentname varchar(50) not null,
description varchar(1000));
```

```
create table faculty
(facultyid int primary key,
facultylastname varchar(50) not null,
facultyfirstname varchar(50) not null,
departmentid int not null references department(departmentid));
```

```
create table classroom
(classroomid int primary key,
building varchar(20) not null,
capacity smallint not null);
```

```
create table class
(classid varchar(20) primary key,
status varchar(10) not null, -- For simplicity, either Active or Inactive
description varchar(100),
semester varchar(20) not null,
departmentid int not null references department(departmentid),
facultyid int not null references faculty(facultyid),
credit tinyint not null,
classroomid int not null references classroom(classroomid));
```

```
create table student
(studentid int primary key,
studentlastname varchar(50) not null,
studentfirstname varchar(50) not null,
departmentid int not null references department(departmentid),
gpa decimal(3,2) not null);
```

```
create table enrollment
(classid varchar(20) references class(classid),
studentid int not null references student(studentid),
semester varchar(20) not null,
status varchar(10) not null -- For simplicity, either active or complete
primary key (classid, studentid, semester));
```

```
create table audittrail
(audittrailid int identity primary key,
departmentid int not null references department(departmentid),
classid varchar(20) not null references class (classid),
timing datetime not null default getdate());
```

-- Question 1 (7.5 points)

/\* Write a query to return the top 2 quarters of a product. The top 2 quarters of a product have the 2 highest total quarterly sales of the product. Use UnitPrice\*OrderQty to calculate the product total quarterly sales. Please keep in mind, there are 4 quarters in a year and there is several years' data in the database.

Also return the percentage of the highest product sales in an order containing the product for a quarter as a percentage of the total quarterly sales amount of the product in the same quarter.

Return only the quarters of a product which don't have more than 5 orders which contain the product and each order has an order value less than 45000 in the same quarter. Use TotalDue as the order value.

Keep in mind, for a product to be returned, it must first meet the ranking requirement, then the order count requirement. Return the data in the format displayed below. The percentage is the highest product sales in an order containing the product for a quarter as a percentage of the total quarterly sales amount of the same product in the same quarter. The name is the product name. Sort the returned data by productid.

\*/

ProductID	Name	Top2Quarters
XXX	XXXXXXXXX	Year Quarter XX.XX% , Year Quarter XX.XX%

-- Question 2 (7.5 points)

/\*

Wang Institute of Data Science is a renowned data architecture and data management graduate school. Given the above tables, please write a SINGLE AFTER trigger to implement the following school rules for it. For simplicity, the scheduling is not in scope.

- 1) A building cannot have more than 50 registered classes per semester.  
A registered class has at least one student attending it.
- 2) The class enrollment cannot exceed the classroom capacity.
- 3) Log any attempted violation.

You only need to consider the INSERT situations.

\*/