Question 1. Identify the categories of trades in a bank´s portfolio.

A bank has a portfolio of thousands of trades and they need to be categorized.
A trade is a commercial negotiation between a bank and a client.
Each trade has a value that indicates the transaction amount in dollars and a text indicating if the client´s sector is "Public" or "Private". They implement the following interface:

```
interface ITrade
{
    double Value { get; }
    string ClientSector { get; }
}
```

Currently, there are three categories rules:
LOWRISK: Trades with value less than 1,000,000 and client from Public Sector
MEDIUMRISK: Trades with value greater than 1,000,000 and client from Public Sector
HIGHRISK: Trades with value greater than 1,000,000 and client from Private Sector

Imagine you receive a list of trades and you need to return a list of categories as below:
input: `List<ITrade> portfolio`
output: `List<string> tradeCategories`

Example:
Input:

```
Trade1 {Value = 2000000; ClientSector = "Private"}
Trade2 {Value = 400000; ClientSector = "Public"}
Trade3 {Value = 500000; ClientSector = "Public"}
Trade4 {Value = 3000000; ClientSector = "Public"}
portfolio = {Trade1, Trade2, Trade3, Trade4}
```

Output:

```
tradeCategories = {"HIGHRISK", "LOWRISK", "LOWRISK", "MEDIUMRISK"}
```

Your design *must* take into account category rules can be added/removed/modified and *will* become highly complex in the near future.
Please write your answer in **C# showing clearly what classes, interfaces, methods and design patterns** you would create/use to solve this problem. Also, object oriented programming is required.

Question 2. Write a procedural version of your solution for question 1, in T-SQL (SQL Server).

Your procedure must write the inputs and outputs in one or more tables (model the table(s) using the best practices).

Include the script to create the table(s) in your answer.