## 1)Using the table structure below write a production ready stored procedure to do the following

1. -- a)
2. SELECT
3. MAX([Balance])
4. FROM [Company].[dbo].[User]
5. WHERE
6. LastName = 'Tom'
7. -- b)
8. if not exists (SELECT UserID FROM [Company].[dbo].[User] WHERE LastName = 'Tom')
9. begin
10. declare @MinBalance int;
11. SELECT @MinBalance = MIN([Balance])
12. FROM [Company].[dbo].[User]
13. select \* from [Company].[dbo].[User] where Balance = @MinBalance
14. end
15. -- c)
16. else
17. begin
18. if exists (select UserID from [Company].[dbo].[User] where UserID= 33)
19. begin
20. update [Company].[dbo].[User]
21. set Balance = (select \* from [Company].[dbo].[User] where UserID= 33)
22. end
23. -- d)
24. else
25. begin
26. update [Company].[dbo].[User]
27. set Balance = 1000
28. end
29. end
30. -- e)
31. select distinct FirstName + ' ' + LastName, u.UserID
32. from [Company].[dbo].[User] u
33. inner join [Company].[dbo].[UserAccountMap] uam on uam.userId = u.UserID
34. inner join [Company].[dbo].[Account] a on a.AccountID = uam.AccountID
35. where Balance > 2000
36. and exists (select a1.Institution from [Company].[dbo].[User] u1
37. inner join [Company].[dbo].[UserAccountMap] uam1 on uam1.userId = u1.UserID
38. inner join [Company].[dbo].[Account] a1 on a1.AccountID = uam1.AccountID
39. group by a1.Institution
40. having count(u1.UserId) > 30
41. )

## 2)Describe in words what changes you would make to the schema above based on the following Information

1. Add a non-clustered index on the User Login column
2. Add a whitelist table associated to user. Create many to many relationship between whitelist and user table.
3. Add Account Type table. Create foreign key “Account\_Type\_Id” on the Account table”

## 3) If the table Account is located on another database on another instance of SQL server

Use Linked Servers :

e.g. select \*from LocalTable, OtherServerName].[OtherDB].[dbo].[OtherTable]

## 4) There exists a system that allows a user to select and play from a list of games however

Create a blacklist and whitelist table. Create a many to many relationship between whitelist table and users table. Create many to many relationship between blacklist table and users table.

## 5) Design a data model that can hold financial transactional data

Create a table to hold a transaction (dbo.Transaction)

Create a status audit table to hold the status of the Transaction (dbo.Transaction\_Audit)

Create a status table to hold supported statuses (dbo.Status)