# SQL

## Creating tables:

(1) Students

(2) Accounts

(3) Transactions

(4) Transfers

(5) Users

### (1) Students

CREATE TABLE Students

(

StudentID INTEGER IDENTITY(1002001, 1) NOT NULL,

FirstName NVARCHAR(50) NOT NULL,

LastName NVARCHAR(50) NOT NULL,

Email NVARCHAR(80) NOT NULL,

PhoneNumber NVARCHAR(30) NOT NULL,

Address1 NVARCHAR(50) NOT NULL,

Address2 NVARCHAR(50) NOT NULL,

City NVARCHAR(50) NOT NULL,

County NVARCHAR(50) NOT NULL,

CONSTRAINT PK\_Students PRIMARY KEY(StudentID)

)

### GO

### (2) Accounts

CREATE TABLE Accounts

(

AccountNumber INTEGER IDENTITY (10000001, 1) NOT NULL,

AccountType NVARCHAR (20) NOT NULL,

SortCode NVARCHAR (10) NOT NULL,

InitialBalance INTEGER NOT NULL,

CurrentBalance INTEGER NOT NULL DEFAULT 0,

OverdraftLimit INTEGER NOT NULL,

StudentID INTEGER NOT NULL,

CONSTRAINT PK\_Accounts PRIMARY KEY (AccountNumber),

CONSTRAINT FK\_Students FOREIGN KEY (StudentID) REFERENCES Students(StudentID)

);

TO ALTER:

ALTER TABLE [dbo].[Accounts] ADD CurrentBalance INT NOT NULL DEFAULT(0);

CREATE TABLE [dbo].[Accounts] (

[AccountNumber] INT IDENTITY (10000001, 1) NOT NULL,

[AccountType] NVARCHAR (20) NOT NULL,

[SortCode] NVARCHAR (10) NOT NULL,

[InitialBalance] INT NOT NULL,

[CurrentBalance] INT DEFAULT ((100)) NOT NULL,

[OverdraftLimit] INT NOT NULL,

[StudentID] INT NOT NULL,

CONSTRAINT [PK\_Accounts] PRIMARY KEY CLUSTERED ([AccountNumber] ASC),

CONSTRAINT [FK\_Students] FOREIGN KEY ([StudentID]) REFERENCES [dbo].[Students] ([StudentID])

);

### (3) Transactions

CREATE TABLE Transactions

(

TransactionNumber INTEGER IDENTITY(1, 1) NOT NULL,

TransactionType NVARCHAR(50) NOT NULL,

AccountNumber INTEGER NOT NULL,

DateTimeOfTransaction DATETIME NOT NULL,

TransactionAmmount INTEGER NOT NULL,

Balance INTEGER NOT NULL,

CONSTRAINT PK\_Transactions PRIMARY KEY(TransactionNumber),

CONSTRAINT FK\_Accounts FOREIGN KEY(AccountNumber)

REFERENCES Accounts(AccountNumber)

)

GO

### (4) Transfers

CREATE TABLE Transfers

(

TransferRefNumber INTEGER IDENTITY(1, 1) NOT NULL,

RecepientName NVARCHAR(100) NOT NULL,

DebitedAccount INTEGER NOT NULL,

TransactionNumber INTEGER NOT NULL,

DestinationSortCode NVARCHAR(10) NOT NULL,

DestinationAccountNumber INTEGER NOT NULL,

TransferAmmount INTEGER NOT NULL,

DateTimeOfTransfer DATETIME NOT NULL,

TransferDescription NVARCHAR(200) NOT NULL,

CONSTRAINT PK\_Transfers PRIMARY KEY(TransferRefNumber),

CONSTRAINT FK\_AccountsFromTransfers FOREIGN KEY(DebitedAccount)

REFERENCES Accounts(AccountNumber),

CONSTRAINT FK\_Transactions FOREIGN KEY(TransactionNumber)

REFERENCES Transactions(TransactionNumber),

CONSTRAINT FK\_AccountsDestination FOREIGN KEY(DestinationAccountNumber)

REFERENCES Accounts(AccountNumber)

)

GO

### (5) Users

CREATE TABLE Users

(

UserID INTEGER IDENTITY(1, 1) NOT NULL,

UserName NVARCHAR(40) NOT NULL,

UserPassword NVARCHAR(40) NOT NULL

CONSTRAINT PK\_Users PRIMARY KEY(UserID)

)

GO

## Populating tables

### (1) Users:

INSERT INTO Users(UserName, UserPassword)

VALUES

('Vasiok', 'ssd5'),

('Emma', '12345')

### (2) Students:

INSERT INTO Students(FirstName, LastName, Email, PhoneNumber, Address1, Address2, City, County)

VALUES

('Kevin', 'Donohue', 'kevin123@gmail.com', '085-2130214', '51 Foxdene', 'Avenue', 'Lucan', 'Dublin'),

('Michael', 'Duffy', 'mikediver@gmail.com', '087-9217304', '2 Foxborough', 'Road', 'Lucan', 'Dublin'),

('David', 'Kingston', 'dvd12@yahoo.com', '086-2513654', '14 Moy Glass', 'View', 'Clondalin', 'Dublin'),

('Steven', 'Johns', 'stvthestar@gmail.com', '085-3219852', '21 Arthur Griffeen', 'Park', 'Lucan', 'Dublin'),

('Harnaik', 'Dhoot', 'dhoote@gmail.com', '085-2130214', '14 Aungier', 'Street', 'Dublin 2', 'Dublin')

### (3) Accounts:

INSERT INTO Accounts(AccountType, SortCode, InitialBalance, CurrentBalance, OverdraftLimit, StudentID)

VALUES

('current', '101010', 2000, 2500, 5100, 1002015),

('saving', '101010', 20000, 19750, 5100, 1002015),

('current', '101010', 3000, 3300, 5100, 1002016),

('current', '101010', 30000, 29750, 5100, 1002017),

('current', '101010', 25000, 25000, 5100, 1002018),

('external', '101010', 2000, 2000, 5100, 1002019)

### (4) Transactions:

INSERT INTO Transactions(TransactionType, AccountNumber, DateTimeOfTransaction, TransactionAmmount, Balance)

VALUES

('credit', 10000016, '2015-01-12 12:35:29.123', 500, 2500),

('debit', 10000017, '2015-02-10 10:15:19.456', 250, 19750),

('credit', 10000018, '2015-03-02 16:32:28.789', 300, 3300),

('debit', 10000019, '2015-03-10 22:02:42.850', 250, 29750)

### (5) Transfers:

INSERT INTO Transfers(RecepientName, DebitedAccount, TransactionNumber, DestinationSortCode, DestinationAccountNumber, TransferAmmount, DateTimeOfTransfer, TransferDescription)

VALUES

('Kevin Donohue', 10000019, 74, '101010', 10000016, 10000, '2015-03-16 11:46:55.380', 'Transfer money to my friend')

('Kevin Donohue', 10000016, 76, '101010', 10000017, 10000, '2015-03-16 11:47:20.923', 'Transfer to my savings')