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Podstawy baz danych

Dokumentacja projektu – system zarządzania konferencjami

# Opis problemu

Projekt dotyczy systemu wspomagania działalności firmy organizującej konferencje:

**Ogólne informacje**

Firma organizuje konferencje, które mogą być jedno- lub kilkudniowe. Klienci powinni móc rejestrować się na konferencje za pomocą systemu www. Klientami mogą być zarówno indywidualne osoby jak i firmy, natomiast uczestnikami konferencji są osoby (firma nie musi podawać od razu przy rejestracji listy uczestników - może zarezerwować odpowiednią ilość miejsc na określone dni oraz na warsztaty, natomiast na 2 tygodnie przed rozpoczęciem musi te dane uzupełnić - a jeśli sama nie uzupełni do tego czasu, to pracownicy dzwonią do firmy i ustalają takie informacje). Każdy uczestnik konferencji otrzymuje identyfikator imienny (+ ew. informacja o firmie na nim). Dla konferencji kilkudniowych, uczestnicy mogą rejestrować się na dowolne z tych dni.

**Warsztaty**

Ponadto z konferencją związane są warsztaty, na które uczestnicy także mogą się zarejestrować - muszą być jednak zarejestrowani tego dnia na konferencję, aby móc w nich uczestniczyć. Kilka warsztatów może trwać równocześnie, ale uczestnik nie może zarejestrować się na więcej niż jeden warsztat, który trwa w tym samym czasie. Jest także ograniczona ilość miejsc na każdy warsztat i na każdy dzień konferencji. Część warsztatów może być płatna, a część jest darmowa.

**Opłaty**

Opłata za udział w konferencji zależy nie tylko od wykupionych usług, ale także od terminu ich wykupienia - jest kilka progów ceny (progi ceny dotyczą tylko udziału w konferencji, cena warsztatów jest stała) i im bliżej rozpoczęcia konferencji, tym cena jest wyższa (jest także zniżka procentowa dla studentów i wtedy przy rejestracji trzeba podać nr legitymacji studenckiej). Na zapłatę klienci mają tydzień od rejestracji na konferencję - jeśli do tego czasu nie pojawi się opłata, rejestracja jest anulowana.

**Raporty**

Dla organizatora najbardziej istotne są listy osobowe uczestników na każdy dzień konferencji i na każdy warsztat, a także informacje o płatnościach klientów. Ponadto organizator chciałby mieć informację o klientach, którzy najczęściej korzystają z jego usług.

**Specyfika firmy**

Firma organizuje średnio 2 konferencje w miesiącu, każda z nich trwa zwykle 2-3 dni, w tym średnio w każdym dniu są 4 warsztaty. Na każdą konferencję średnio rejestruje się 200 osób. Stworzona baza danych powinna zostać wypełniona w takim stopniu, aby odpowiadała 3-letniej działalności firmy.

# Schemat bazy

Obraz zawierający zrzut ekranu

Opis wygenerowany automatycznie

# Opisy tabel

## Cities

Tabela z miastami oraz identyfikatorami regionów w których się znajdują.

**create table** Cities  
(  
 CityID **int identity** (0, 1)  
 **primary key**,  
 CityName **varchar**(80) **not null**,  
 RegionID **int not null  
 constraint** FK\_\_Cities\_\_RegionID\_\_7CD98669  
 **references** Regions  
)  
**go**

## Companies

Firmy wraz z charakterystycznymi dla firmy danymi (nazwa, NIP)

**create table** Companies  
(  
 CompanyID **int not null  
 constraint** PK\_\_Companie\_\_2D971C4C89B49313  
 **primary key  
 constraint** FK\_\_Companies\_\_Compa\_\_1D7B6025  
 **references** Customers,  
 CompanyName **nvarchar**(150),  
 NIP **char**(10) **not null  
 constraint** UQ\_\_Companie\_\_C7DEC3C65B7646BC  
 **unique  
 constraint** CHK\_NIP  
 **check** (**NOT** [NIP] **like** '%[^0-9]%'),  
 Phone **varchar**(15) **not null  
 constraint** UQ\_\_Companie\_\_5C7E359E2281BCA6  
 **unique  
 constraint** PhoneFormat  
 **check** (**NOT** [phone] **like** '%[^0-9]%'),  
 Email **varchar**(100)  
 **constraint** UQ\_EMAIL  
 **unique  
 constraint** EmailFormat2  
 **check** ([Email] **like** '%\_@\_\_%.\_\_%')  
)  
**go**

## ConferenceDayReservation

Tabela zawierająca informacje o tym, na który dzień jest zapisana, jej rozmiarze (ilości miejsc normalnych i studenckich). Zawiera triggera, który dodaje puste krotki (przeznaczone do uzupełnienia) do tabeli Participants.

**create table** ConferenceDayReservation  
(  
 DayReservationID **int identity** (0, 1)  
 **constraint** PK\_\_Conferen\_\_5572EBDB96C393BD  
 **primary key**,  
 ConferenceDayID **int not null  
 constraint** FK\_\_Conferenc\_\_Confe\_\_41B8C09B  
 **references** ConferenceDays  
 **constraint** CHK\_SIZE\_OK  
 **check** ([dbo].*[ReservedSeatsPerConferenceDay]*([ConferenceDayID]) <= [dbo].*[ConferenceSize]*([ConferenceDayID])),  
 ReservedAdultSeats **int not null**,  
 ReservedStudentSeats **int not null**,  
 ReservationID **int not null  
 constraint** FK\_\_Conferenc\_\_Reser\_\_66EA454A  
 **references** ConferenceReservations,  
 **constraint** CHK\_RESERVATION  
 **check** ([ReservedAdultSeats] >= 0 **AND** [ReservedStudentSeats] >= 0 **AND** ([ReservedAdultSeats] + [ReservedStudentSeats]) > 0),  
 **constraint** CHK\_RESERVED\_BY\_COMPANY\_OR\_ONE  
 **check** ([dbo].*[IsReservationByCompany]*([ReservationID]) = 1 **OR** ([ReservedAdultSeats] + [ReservedStudentSeats]) = 1)  
)  
**go**

**CREATE trigger** [dbo].[InsertParticipantsForReservation] **on** [dbo].[ConferenceDayReservation]  
**for insert  
as  
declare** @AdultPointer **int** = 1,  
 @StudentPointer **int** = 1,  
 @NumberOfAdults **int** = (**select** ReservedAdultSeats **from** inserted),  
 @NumberOfStudents **int** = (**Select** ReservedStudentSeats **from** inserted),  
 @NewParticipantID **int**;  
**while** @AdultPointer <= @NumberOfAdults **begin  
 insert into** Participants **default values  
 set** @NewParticipantID = (**select** *max*(ParticipantID) **from** Participants)  
 **insert into** ConferenceDayParticipants (ConferenceDayReservationID, ParticipantID)  
 **values** ((**select** DayReservationID **from** inserted), @NewParticipantID)  
 **set** @AdultPointer = @AdultPointer + 1  
**end  
while** @StudentPointer <= @NumberOfStudents **begin  
 insert into** Participants **default values  
 set** @NewParticipantID = (**select** *max*(ParticipantID) **from** Participants)  
 **insert into** Students (ParticipantID) **values** (@NewParticipantID)  
 **insert into** ConferenceDayParticipants (ConferenceDayReservationID, ParticipantID)  
 **values** ((**select** DayReservationID **from** inserted), @NewParticipantID)  
 **set** @StudentPointer = @StudentPointer + 1  
**end  
go**

## ConferenceDays

Znajdują się w niej poszczególne dni każdej konferencji wraz z informacją o dacie i kolejności dnia w całej konferencji.

**create table** ConferenceDays  
(  
 ConferenceDayID **int identity** (0, 1)  
 **constraint** PK\_\_Conferen\_\_E57A6462D2FB2DE1  
 **primary key**,  
 ConferenceID **int not null  
 constraint** FK\_\_Conferenc\_\_Confe\_\_3EDC53F0  
 **references** Conferences,  
 **Date date not null**,  
 DayOrdinal **smallint  
 constraint** CHK\_DAY\_ORDINAL  
 **check** ([dayordinal] > 0),  
 **constraint** CHK\_DAY\_ORD\_UNIQ  
 **unique** (ConferenceID, DayOrdinal)  
)  
**go**

## ConferenceDayWorkshops

Zawiera informacje o warsztatach w danym dniu. Zawiera klucz obcy do tabeli słownikowej Workshops oraz do ConferenceDays. Ma informacje o dacie, czasie, cenie i limicie miejsc.

**create table** ConferenceDayWorkshops  
(  
 ConferenceDayWorkshopID **int identity** (0, 1)  
 **constraint** PK\_\_Conferen\_\_714B153C1B305831  
 **primary key**,  
 ConferenceDayID **int not null  
 constraint** FK\_\_Conferenc\_\_Confe\_\_4E1E9780  
 **references** ConferenceDays,  
 WorkshopID **int not null  
 constraint** FK\_\_Conferenc\_\_Works\_\_4F12BBB9  
 **references** Workshops,  
 StartTime **time not null**,  
 EndTime **time not null**,  
 Price **money  
 constraint** DEF\_WKSH\_PRICE **default** 0,  
 ParticipantsLimit **int**,  
 **constraint** CHK\_SIZES\_NON\_NEGATIVE  
 **check** ([ParticipantsLimit] > 0 **AND** [price] >= 0),  
 **constraint** CHK\_SIZE\_SMALLER\_THAN\_CONF  
 **check** ([dbo].*[ConferenceSize]*([ConferenceDayID]) >= [ParticipantsLimit]),  
 **constraint** CHK\_TIME  
 **check** ([StartTime] < [EndTime])  
)  
**go**

## ConferenceEmployees

Przyporządkowuje pracowników firmy do obsługi danej konferencji.

**create table** ConferenceEmployees  
(  
 ConferenceID **int not null  
 constraint** FK\_\_Conferenc\_\_Confe\_\_4865BE2A  
 **references** Conferences,  
 EmployeeID **int not null  
 constraint** FK\_\_Conferenc\_\_Emplo\_\_4959E263  
 **references** OurEmployees,  
 **primary key** (ConferenceID, EmployeeID)  
)  
**go**

## ConferencePricetables

Zawiera informację o progach cenowych każdej z konferencji – ich początki i końce oraz stopień zniżki.

**create table** ConferencePricetables  
(  
 PriceID **int identity** (0, 1)  
 **primary key**,  
 ConferenceID **int not null  
 references** Conferences,  
 PriceStartsOn **date not null**,  
 PriceEndsOn **date not null**,  
 DiscountRate **real not null  
 check** ([DiscountRate] >= 0 **AND** [DiscountRate] <= 1)  
)  
**go**

## ConferenceDayParticipants

Przyporządkowuje uczestników do danej rezerwacji dnia konferencji.

**create table** ConferenceDayParticipants  
(  
 ConferenceDayParticipantID **int identity** (0, 1)  
 **primary key**,  
 ConferenceDayReservationID **int not null  
 constraint** FK\_\_Conferenc\_\_Confe\_\_6CA31EA0  
 **references** ConferenceDayReservation,  
 ParticipantID **int not null  
 constraint** FK\_\_Conferenc\_\_Parti\_\_6ABAD62E  
 **references** Participants  
)  
**go**

**CREATE TRIGGER** DeleteEmptyRecordWhenFoundParticipant **ON** dbo.ConferenceDayParticipants  
**AFTER UPDATE  
AS  
DECLARE** @p **int  
SELECT** @p = ParticipantId **FROM** Deleted  
**DELETE FROM** dbo.Participants  
**WHERE** ParticipantID = @p **AND** LastName **IS NULL  
go**

## ConferenceReservations

Zawiera informacje o dacie zamówienia konferencji, płatności i zamawiającym kliencie.

**create table** ConferenceReservations  
(  
 ReservationID **int identity** (0, 1)  
 **primary key**,  
 CustomerID **int not null  
 constraint** FK\_\_Conferenc\_\_Custo\_\_65F62111  
 **references** Customers,  
 DateOrdered **date  
 constraint** DEF\_ORDER\_DATE **default** *CONVERT*([date], *getdate*()) **not null**,  
 DatePaid **date**,  
 **constraint** CHK\_PAID\_SEVEN\_DAYS\_OR\_FASTER  
 **check** (*datediff*(**day**, [DateOrdered], [DatePaid]) <= 7)  
)  
**go**

## Conferences

Zawiera informacje o konferencjach – czasie trwania, limicie miejsc, zniżce dla studenta oraz miejscu gdzie się odbywa.

**create table** Conferences  
(  
 ConferenceID **int identity** (0, 1)  
 **primary key**,  
 **Name varchar**(200) **not null**,  
 StartDate **date not null**,  
 EndDate **date not null**,  
 BasePriceForDay **money  
 constraint** CHK\_CONF\_PRICE  
 **check** ([BasePriceForDay] >= 0),  
 StudentDiscount **real  
 constraint** DEF\_BASEPRICE **default** 0  
 **constraint** CK\_\_Conferenc\_\_Stude\_\_336AA144  
 **check** ([StudentDiscount] >= 0 **AND** [StudentDiscount] <= 1),  
 ParticipantsLimit **int  
 constraint** CHK\_CONF\_PARTICIP  
 **check** ([ParticipantsLimit] > 0),  
 Street **varchar**(74),  
 HouseNumber **varchar**(5),  
 AppartmentNumber **int**,  
 CityID **int  
 references** Cities,  
 PostalCode **char**(6)  
 **check** ([PostalCode] **like** '[0-9][0-9]-[0-9][0-9][0-9]'),  
 **constraint** CHK\_CONF\_DATES  
 **check** (*datediff*(**day**, [StartDate], [EndDate]) >= 0)  
)  
**go**

**CREATE TRIGGER** BasicDiscountForConference **ON** Conferences **AFTER INSERT  
AS  
INSERT INTO** dbo.ConferencePricetables  
(  
 ConferenceID,  
 PriceStartsOn,  
 PriceEndsOn,  
 DiscountRate  
)  
**VALUES**( (**SELECT** ConferenceID **FROM** Inserted), -- ConferenceID - int  
 (**SELECT** *DATEADD*(**DAY**, -1, CreatedOn) **FROM** Inserted), -- PriceStartsOn - date  
 (**SELECT** *DATEADD*(**DAY**, -1, CreatedOn) **FROM** Inserted), -- PriceEndsOn - date  
 1 -- DiscountRate - real  
 )  
**go**

**create trigger** InsertDaysForNewConference **on** Conferences  
**for insert  
as  
  
DECLARE** @MinDate **DATE**,  
 @MaxDate **DATE**,  
 @DatePointer **date**,  
 @DayOrdinal **int** = 1;  
  
**set** @MinDate = (**select** startdate **from** inserted);  
**set** @MaxDate = (**select** enddate **from** inserted);  
**set** @DatePointer = @MinDate;  
  
**while** @DatePointer <= @MaxDate **begin  
 insert into** ConferenceDays (ConferenceID, **Date**, DayOrdinal)  
 **values** (  
 (**select** ConferenceID **from** inserted),  
 @DatePointer,  
 @DayOrdinal  
 )  
 **set** @DatePointer = *DATEADD*(**day**, 1, @DatePointer);  
 **set** @DayOrdinal = @DayOrdinal + 1;  
**end**;  
**go**

## Countries

Tabela z nazwami państw.

**create table** Countries  
(  
 CountryID **int identity** (0, 1)  
 **primary key**,  
 CountryName **varchar**(80) **not null  
 constraint** UQ\_COUNTRY  
 **unique**)  
**go**

## Customers

Tabela z danymi adresowymi wszystkich klientów (prywatnych i firmowych), do której później odnoszą się relacje Company oraz PrivateCustomer.

**create table** Customers  
(  
 CustomerID **int identity** (0, 1)  
 **primary key**,  
 Street **nvarchar**(74),  
 HouseNumber **nvarchar**(5),  
 AppartmentNumber **int**,  
 CityID **int  
 references** Cities,  
 PostalCode **char**(6)  
 **check** ([PostalCode] **like** '[0-9][0-9]-[0-9][0-9][0-9]')  
)  
**go**

## EmployeesOfCompanies

Tabela wiążąca uczestników konferencji z ich firmami.

**create table** EmployeesOfCompanies  
(  
 ParticipantID **int not null  
 constraint** IX\_EmployeesOfCompanies  
 **unique  
 constraint** FK\_\_Employees\_\_Parti\_\_2BC97F7C  
 **references** Participants,  
 CompanyID **int not null  
 constraint** FK\_\_Employees\_\_Compa\_\_2CBDA3B5  
 **references** Companies,  
 **primary key** (ParticipantID, CompanyID)  
)  
**go**

## OurEmployees

Tabela zawierająca dane pracowników firmy.

**create table** OurEmployees  
(  
 EmployeeID **int identity** (0, 1)  
 **primary key**,  
 FirstName **varchar**(30) **not null**,  
 LastName **varchar**(50) **not null**,  
 BirthDate **date**,  
 HireDate **date**,  
 Phone **varchar**(15) **not null  
 constraint** CHK\_EMP\_PHONE\_UNIQ  
 **unique  
 constraint** CHK\_EMP\_PHONE  
 **check** (**NOT** [Phone] **like** '%[^0-9]%'),  
 Street **varchar**(74),  
 HouseNumber **varchar**(5),  
 AppartmentNumber **int**,  
 CityID **int  
 references** Cities,  
 PostalCode **char**(6)  
 **check** ([PostalCode] **like** '[0-9][0-9]-[0-9][0-9][0-9]'),  
 Email **varchar**(100)  
 **constraint** CHK\_EMP\_EMAIL\_UNIQ  
 **unique  
 check** ([Email] **like** '%\_@\_%.\_%')  
)  
**go**

## Participants

Tabela zawierająca imiona, nazwiska oraz dane kontaktowe uczestników.

**create table** Participants  
(  
 ParticipantID **int identity** (0, 1)  
 **constraint** PK\_\_Particip\_\_7227997EFB4A4EAE  
 **primary key**,  
 FirstName **varchar**(30),  
 LastName **varchar**(50),  
 Phone **varchar**(15)  
 **constraint** PhoneFormat2  
 **check** (**NOT** [phone] **like** '%[^0-9]%'),  
 Email **varchar**(100)  
 **constraint** EmailFormat  
 **check** ([Email] **like** '%\_@\_\_%.\_\_%')  
)  
**go  
  
create unique index** UQ\_Email  
 **on** Participants (Phone)  
 **where** [Phone] **IS NOT NULL  
go**

## PrivateCustomers

Tabela zawierająca klucze obce do tych uczestników, którzy są klientami prywatnymi zamawiającymi konferencję. Łączy wpisy z tabeli Participants (dane osobowe) z danymi z tabeli Customers (dane adresowe).

**create table** PrivateCustomers  
(  
 CustomerID **int not null  
 primary key  
 constraint** FK\_\_PrivateCu\_\_Custo\_\_0B27A5C0  
 **references** Customers,  
 ParticipantID **int not null  
 constraint** UniqueParticipant  
 **unique  
 constraint** FK\_\_PrivateCu\_\_Parti\_\_0C1BC9F9  
 **references** Participants  
)  
**go**

## Regions

Tabela z nazwami regionów oraz identyfikatorami państw, w których one się znajdują.

**create table** Regions  
(  
 RegionID **int identity** (0, 1)  
 **primary key**,  
 RegionName **varchar**(80) **not null  
 constraint** UQ\_REGION  
 **unique**,  
 CountryID **int not null  
 constraint** FK\_\_Regions\_\_Country\_\_79FD19BE  
 **references** Countries  
)  
**go**

## Students

Tabela zawierająca informację o tym którzy z uczestników są studentami oraz ich numery indeksów.

**create table** Students  
(  
 ParticipantID **int not null  
 constraint** PK\_\_Student\_\_7227997E8D9AA260  
 **primary key  
 constraint** FK\_\_Student\_\_Partici\_\_28ED12D1  
 **references** Participants,  
 StudentCardNumber **varchar**(10)  
)  
**go**

## WorkshopParticipants

Tabela przyporządkowująca tych uczestników dnia konferencji, którzy uczestniczą w jakimś warsztacie do tegoż warsztatu.

**create table** WorkshopParticipants  
(  
 ConferenceDayParticipantID **int not null  
 constraint** FK\_\_WorkshopP\_\_Confe\_\_54CB950F  
 **references** ConferenceDayParticipants,  
 ConferenceDayWorkshopID **int not null  
 constraint** FK\_\_WorkshopP\_\_Confe\_\_55BFB948  
 **references** ConferenceDayWorkshops,  
 **primary key** (ConferenceDayParticipantID, ConferenceDayWorkshopID),  
 **constraint** CHK\_FREE\_SEATS  
 **check** ([dbo].*[EmptySeatsInWorkshopReservation]*([ConferenceDayParticipantID], [ConferenceDayWorkshopID]) >= 0),  
 **constraint** CHK\_PARTICIPANT\_NOT\_IN\_ANOTHER\_WORKSHOP  
 **check** ([dbo].*[HasParticipantCollidingWorkshops]*([ConferenceDayWorkshopID], [ConferenceDayParticipantID]) = 0)  
)  
**go**

## WorkshopReservation

Tabela zawierająca dane o rezerwacji warsztatu – z której rezerwacji dnia pochodzi, ile miejsc jest zarezerwowanych i na którą konferencję.

**create table** WorkshopReservation  
(  
 WorkshopReservationID **int identity** (0, 1)  
 **primary key**,  
 ConferenceDayWorkshopID **int not null  
 constraint** FK\_\_WorkshopR\_\_Confe\_\_6F7F8B4B  
 **references** ConferenceDayWorkshops  
 **constraint** CHK\_ENOUGH\_FREE\_SEATS  
 **check** ([dbo].*[ReservedSeatsForWorkshop]*([ConferenceDayWorkshopID]) <=  
 [dbo].*[WorkshopSeatsLimit]*([ConferenceDayWorkshopID])),  
 ConferenceDayReservationID **int not null  
 constraint** FK\_\_WorkshopR\_\_Confe\_\_7073AF84  
 **references** ConferenceDayReservation,  
 ReservedSeats **int not null  
 constraint** CHK\_WORKSHOP\_RESERV\_NON\_NEGATIVE  
 **check** ([ReservedSeats] > 0),  
 **constraint** UQ\_ONE\_DAY\_RESERV\_ONE\_WORKSH\_RESERV  
 **unique** (ConferenceDayWorkshopID, ConferenceDayReservationID),  
 **constraint** CHK\_RESERVING\_WORKSHOP\_AT\_CORRECT\_CONF\_DAY  
 **check** ([dbo].*[WorkshopReservationOnDayReservationConference]*([ConferenceDayReservationID],  
 [ConferenceDayWorkshopID]) = 0),  
 **constraint** CHK\_WORKSHOP\_RESERV\_NOT\_GREATER\_THAN\_DAY\_RESERV  
 **check** ([ReservedSeats] <= [dbo].*[ConferenceDayReservationSize]*([ConferenceDayReservationID]))  
)  
**go**

## Workshops

Relacja słownikowa z nazwami i opisami wszystkich organizowanych warsztatów.

**create table** Workshops  
(  
 WorkshopID **int identity** (0, 1)  
 **constraint** PK\_\_Workshop\_\_7A008C2A4FD1EE19  
 **primary key**,  
 **Name varchar**(200) **not null  
 constraint** UQ\_NAME  
 **unique**,  
 **Description varchar**(1000)  
)  
**go**

# Widoki

## ConferencePlan

Wszystkie konferencje wraz z zaplanowanymi w trakcie ich trwania warsztatami i ich rozpiętością czasową.

**CREATE VIEW** ConferencePlan **AS  
SELECT** Conferences.Name **AS** 'Conference name',   
 **Date**,   
 *ISNULL*(dbo.Workshops.Name, '[No workshops at that day]') **AS** 'Workshop name',   
 StartTime **AS** 'Start time',   
 EndTime **AS** 'End time',   
 *ISNULL*(**Description**, '---') **AS** 'Description'  
**FROM** dbo.Conferences  
**left JOIN** dbo.ConferenceDays **ON** ConferenceDays.ConferenceID = Conferences.ConferenceID  
**left JOIN** dbo.ConferenceDayWorkshops **ON** ConferenceDayWorkshops.ConferenceDayID = ConferenceDays.ConferenceDayID  
**LEFT JOIN** dbo.Workshops **ON** Workshops.WorkshopID = ConferenceDayWorkshops.WorkshopID  
**go**

## ConferencesWithAvailablePlaces

Zawiera informacje o tym ile miejsc zostało zarezerwowanych, a ile jest wolnych na każdą z konferencji.

**CREATE VIEW** [dbo].[ConferencesWithAvailablePlaces]  
**AS  
SELECT** Conferences.ConferenceID, **Name**, DayOrdinal **AS Day**, ConferenceDays.Date **AS** 'Date', ParticipantsLimit **AS** 'Seat limit',   
 *ISNULL*(*SUM*(ReservedAdultSeats), 0) **AS** 'Reserved adult seats',  
 *ISNULL*(*SUM*(ReservedStudentSeats), 0) **AS** 'Reserved student seats',  
 *ISNULL*(*SUM*(ReservedAdultSeats + ReservedStudentSeats), 0) **AS** 'Total seats reserved',  
 ParticipantsLimit - *ISNULL*(*SUM*(ReservedAdultSeats + ReservedStudentSeats), 0) **AS** 'Available seats'  
**FROM** Conferences  
**JOIN** ConferenceDays  
**ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
**LEFT JOIN** ConferenceDayReservation  
**ON** ConferenceDays.ConferenceDayID = ConferenceDayReservation.ConferenceDayID  
**WHERE** Conferences.EndDate >= *CONVERT*(**DATE**, *GETDATE*())  
**GROUP BY** Conferences.ConferenceID, **Name**, DayOrdinal, ParticipantsLimit, ConferenceDays.Date  
**go**

## CustomerContactData

Zawiera dane kontaktowe wszystkich klientów z wyszczególnieniem czy jest to klient prywatny czy firma.

**CREATE VIEW** [dbo].[CustomerContactData] **AS  
SELECT** CustomerID, CompanyName **AS** 'Name',  
 'Company' **AS** 'Customer type',  
 Street + ' ' + HouseNumber + *ISNULL*('/' + *CAST*(AppartmentNumber **AS VARCHAR**), '') + ', ' + PostalCode + ' ' + CityName + ', ' + RegionName + ', ' + CountryName **AS** 'Address',  
 Phone,  
 Email  
**FROM** dbo.Customers  
**INNER JOIN** dbo.Companies **ON** Companies.CompanyID = Customers.CustomerID  
**INNER JOIN** dbo.Cities **ON** Cities.CityID = Customers.CityID  
**INNER JOIN** dbo.Regions **ON** Regions.RegionID = Cities.RegionID  
**INNER JOIN** dbo.Countries **ON** Countries.CountryID = Regions.CountryID  
**UNION  
SELECT** Customers.CustomerID, FirstName + ' ' + LastName **AS** 'Name',  
 'Private Customer' **AS** 'Customer type',  
 Street + ' ' + HouseNumber + *ISNULL*('/' + *CAST*(AppartmentNumber **AS VARCHAR**), '') + ', ' + PostalCode + ' ' + CityName + ', ' + RegionName + ', ' + CountryName **AS** 'Address',  
 Phone,  
 Email  
**FROM** dbo.Customers  
**INNER JOIN** dbo.PrivateCustomers **ON** PrivateCustomers.CustomerID = Customers.CustomerID  
**INNER JOIN** dbo.Participants **ON** Participants.ParticipantID = PrivateCustomers.ParticipantID  
**INNER JOIN** dbo.Cities **ON** Cities.CityID = Customers.CityID  
**INNER JOIN** dbo.Regions **ON** Regions.RegionID = Cities.RegionID  
**INNER JOIN** dbo.Countries **ON** Countries.CountryID = Regions.CountryID  
**go**

## CustomerWithPaidReservations

Widok ‘najaktywniejszych klientów’ – pokazuje ile opłaconych zamówień mają dani klienci.

**CREATE VIEW** [dbo].[CustomersWithPaidReservations]  
**AS  
SELECT** CompanyName **AS** Customer, 'Company' **AS** 'Customer type', dbo.*GetNumberOfPaidReservationForCustomer*(Companies.Email) **AS** PaidReservations  
**FROM** Customers  
**JOIN** Companies  
**ON** Customers.CustomerID = Companies.CompanyID  
**UNION  
SELECT** (FirstName + ' ' + LastName) **AS** Customer,  
'Private customer' **AS** 'Customer type',  
dbo.*GetNumberOfPaidReservationForCustomer*(Participants.Email) **AS** PaidReservations  
**FROM** Customers  
**JOIN** PrivateCustomers  
**ON** Customers.CustomerID = PrivateCustomers.CustomerID  
**JOIN** Participants  
**ON** PrivateCustomers.ParticipantID = Participants.ParticipantID  
**go**

## DayReservationData

Pokazuje informacje o rezerwacjach dnia konferencji wraz z danymi klienta.

**CREATE VIEW** DayReservationData **AS  
SELECT DISTINCT Name AS** 'Name', [Customer type], **Address**, Phone, Email, DateOrdered, DatePaid,  
 [Conference name], **Date**, DayOrdinal,  
 ReservedAdultSeats, ReservedStudentSeats  
**FROM** DayWorkshopReservationData  
**go**

## DayWorkshopReservationData

Widok pomocniczy dla widoków DayReservationData, WorkshopReservationData

**CREATE VIEW** [dbo].[DayWorkshopReservationData] **AS  
SELECT** CustomerContactData.Name **AS** 'Name', [Customer type], **Address**, Phone, Email, DateOrdered, DatePaid,  
 Conferences.Name **AS** 'Conference name', **Date**, DayOrdinal,  
 cdr.ReservedAdultSeats, cdr.ReservedStudentSeats, Workshops.name **AS** 'Workshop name', ConferenceDays.Date **AS** 'Workshop date',  
 dbo.WorkshopReservation.ReservedSeats  
**FROM** dbo.ConferenceReservations  
**INNER JOIN** dbo.ConferenceDayReservation cdr **ON** ConferenceReservations.ReservationID = cdr.ReservationID  
**INNER JOIN** dbo.CustomerContactData **ON** ConferenceReservations.CustomerID = CustomerContactData.CustomerID  
**INNER JOIN** dbo.ConferenceDays **ON** ConferenceDays.ConferenceDayID = cdr.ConferenceDayID  
**INNER JOIN** dbo.Conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
**LEFT OUTER JOIN** dbo.WorkshopReservation **ON** WorkshopReservation.ConferenceDayReservationID = cdr.DayReservationID  
**LEFT OUTER JOIN** dbo.ConferenceDayWorkshops **ON** ConferenceDayWorkshops.ConferenceDayWorkshopID = dbo.WorkshopReservation.ConferenceDayWorkshopID  
**LEFT OUTER JOIN** dbo.Workshops **ON** Workshops.WorkshopID = ConferenceDayWorkshops.WorkshopID  
**go**

## EmployeesInDuty

Pokazuje którzy pracownicy którą konferencję obsługują.

**CREATE VIEW** EmployeesInDuty **AS  
SELECT** FirstName + ' ' + LastName **AS** 'Employee', **Name  
FROM** dbo.ConferenceEmployees  
**INNER JOIN** dbo.OurEmployees **ON** OurEmployees.EmployeeID = ConferenceEmployees.EmployeeID  
**INNER JOIN** dbo.Conferences **ON** Conferences.ConferenceID = ConferenceEmployees.ConferenceID  
**go**

## FrequentCustomers

Pokazuje 10 najczęściej rezerwujących klientów.

**CREATE VIEW** [dbo].[FrequentCustomers] **AS  
SELECT TOP** 10 *ISNULL*(companyname,'') + *ISNULL*(firstname + ' ','') + *ISNULL*(lastname,'') **AS** 'Customer Name',   
 *COUNT*(reservationid) **AS** 'Number of paid reservations',   
 *ISNULL*(Participants.Email,'') + *ISNULL*(dbo.Companies.Email,'') **AS** 'E-mail',  
 *ISNULL*(dbo.Participants.Phone,'') + *ISNULL*(dbo.Companies.Phone,'') **AS** 'Phone'  
**FROM** Customers  
**INNER JOIN** ConferenceReservations  
 **ON** Customers.CustomerID = ConferenceReservations.CustomerID  
**LEFT JOIN** PrivateCustomers  
 **ON** Customers.CustomerID = PrivateCustomers.CustomerID  
**LEFT JOIN** Participants  
 **ON** PrivateCustomers.ParticipantID = Participants.ParticipantID  
**LEFT JOIN** Companies  
 **ON** Customers.CustomerID = Companies.CompanyID  
**WHERE** DatePaid **IS NOT NULL  
GROUP BY** firstname, lastname, companyname, dbo.Participants.Email, dbo.Companies.Email, dbo.Companies.Phone, dbo.Participants.Phone  
**ORDER by** *count*(ReservationID) **desc  
go**

## OrdersToBeDeleted

Pokazuje zamówienia nieopłacone w terminie

**CREATE VIEW** OrdersToBeDeleted **AS  
SELECT** \* **FROM** dbo.UnpaidReservations  
**WHERE** *DATEDIFF*(**DAY**, DateOrdered, *CONVERT*(**DATE**, *GETDATE*())) > 7  
**go**

## OrganisingCities

Miasta w których odbywają się konferencje wraz z ilością zorganizowanych tam konferencji.

**CREATE VIEW** OrganisingCities **AS  
SELECT** CityName, RegionName, CountryName, *COUNT*(ConferenceID) **AS** 'Number of organised conferences'  
**FROM** dbo.Cities  
**INNER JOIN** dbo.Regions **ON** Regions.RegionID = Cities.RegionID  
**INNER JOIN** dbo.Countries **ON** Countries.CountryID = Regions.CountryID  
**INNER JOIN** dbo.Conferences **ON** Conferences.CityID = Cities.CityID  
**GROUP BY** CityName, RegionName, CountryName  
**go**

## ParticipantData

Dane osobowe wszystkich uczestników.

**CREATE VIEW** ParticipantData **AS  
SELECT** Conferences.Name **AS** 'Conference name', ConferenceDays.Date **AS** 'Date', FirstName + ' ' + LastName **AS** 'Name', Phone, Email  
**FROM** dbo.ConferenceDayParticipants  
**INNER JOIN** dbo.Participants **ON** Participants.ParticipantID = ConferenceDayParticipants.ParticipantID  
**INNER JOIN** dbo.ConferenceDayReservation **ON** ConferenceDayReservation.DayReservationID = ConferenceDayParticipants.ConferenceDayReservationID  
**INNER JOIN** dbo.ConferenceDays **ON** ConferenceDays.ConferenceDayID = ConferenceDayReservation.ConferenceDayID  
**INNER JOIN** dbo.Conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
**WHERE** LastName **IS NOT NULL AND** EndDate >= *CONVERT*(**DATE**, *GETDATE*())  
**go**

## ParticipantIdentificators

Identyfikatory dla uczestników konferencji.

**CREATE VIEW** [dbo].[ParticipantIdentificators]  
**AS  
SELECT Name AS** 'Conference Name', **Date**, FirstName, LastName, CompanyName, StudentCardNumber  
**FROM** Conferences  
**JOIN** ConferenceDays  
**ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
**JOIN** ConferenceDayReservation  
**ON** ConferenceDays.ConferenceDayID = ConferenceDayReservation.ConferenceDayID  
**JOIN** ConferenceDayParticipants  
**ON** ConferenceDayReservation.DayReservationID = ConferenceDayParticipants.ConferenceDayReservationID  
**JOIN** Participants  
**ON** ConferenceDayParticipants.ParticipantID = Participants.ParticipantID  
**LEFT JOIN** dbo.Students  
**ON** Students.ParticipantID = Participants.ParticipantID  
**LEFT JOIN** EmployeesOfCompanies  
**ON** Participants.ParticipantID = EmployeesOfCompanies.ParticipantID  
**LEFT JOIN** Companies  
**ON** EmployeesOfCompanies.CompanyID = Companies.CompanyID  
**WHERE** LastName **IS NOT NULL AND date** >= *CONVERT*(**DATE**, *GETDATE*())  
**go**

## Payments

Dane o płatnościach dokonywanych przez klientów.

**CREATE view** [dbo].[Payments] **as  
select** ReservationID, CompanyName, DateOrdered, DatePaid,  
 dbo.*CalculatePriceForReservation*( Companies.Email, DateOrdered) **as** Price  
**from** ConferenceReservations  
**join** Customers  
**on** ConferenceReservations.CustomerID = Customers.CustomerID  
**join** Companies  
**on** Customers.CustomerID = Companies.CompanyID  
**union  
select** ReservationID, (FirstName + ' ' + LastName), DateOrdered, DatePaid,  
 dbo.*CalculatePriceForReservation*( Participants.Email, DateOrdered) **as** Price  
**from** ConferenceReservations  
**join** Customers  
**on** ConferenceReservations.CustomerID = Customers.CustomerID  
**join** PrivateCustomers  
**on** Customers.CustomerID = PrivateCustomers.CustomerID  
**join** Participants  
**on** PrivateCustomers.ParticipantID = Participants.ParticipantID  
**go**

## TwoWeekOldReservationsWithoutAllParticipants

Widok pokazujący klientów do których muszą zadzwonić pracownicy w związku z nieuzupełnionymi rezerwacjami.

**CREATE view** TwoWeekOldReservationsWithoutAllParticipants **as  
select** cdp.ConferenceDayReservationID **as** 'Conference Day Reservation ID',  
 (**select** 2 **from** (**select** cdpp.ConferenceDayReservationID **as** x1, *count*(cdpp.ParticipantID) **as** y1  
 **from** ConferenceDayParticipants cdpp  
 **inner join** Participants p  
 **on** P.ParticipantID = cdpp.ParticipantID  
 **left join** Students  
 **on** p.ParticipantID = students.ParticipantID  
 **where** LastName **is null and** students.ParticipantID **is null  
 group by** cdpp.ConferenceDayReservationID) **as** t **where** t.x1 = cdp.ConferenceDayReservationID) **as** 'Adult Seats Left',  
 (**select** 2 **from** (**select** cdpp.ConferenceDayReservationID **as** x2, *count*(cdpp.ParticipantID) **as** y2  
 **from** ConferenceDayParticipants cdpp  
 **inner join** Participants p  
 **on** P.ParticipantID = cdpp.ParticipantID  
 **inner join** Students  
 **on** p.ParticipantID = students.ParticipantID  
 **where** LastName **is null  
 group by** cdpp.ConferenceDayReservationID) **as** t **where** t.x2 = cdp.ConferenceDayReservationID) **as** 'Student seats left',  
 c.Phone  
**from** ConferenceDayParticipants cdp  
**inner join** ConferenceDayReservation cdr  
 **on** cdp.ConferenceDayReservationID = cdr.DayReservationID  
**inner join** ConferenceReservations cr  
 **on** cdr.ReservationID = cr.ReservationID  
**inner join** Customers cust  
 **on** cr.CustomerID = cust.CustomerID  
**inner join** Companies c  
 **on** c.CompanyID = cust.CustomerID  
**where** *datediff*(**day**, cr.dateordered, *convert*(**date**, *getdate*())) > 14 **and** (  
(**select** 2 **from** (**select** cdpp.ConferenceDayReservationID **as** x2, *count*(cdpp.ParticipantID) **as** y2  
 **from** ConferenceDayParticipants cdpp  
 **inner join** Participants p  
 **on** P.ParticipantID = cdpp.ParticipantID  
 **inner join** Students  
 **on** p.ParticipantID = students.ParticipantID  
 **where** LastName **is null  
 group by** cdpp.ConferenceDayReservationID) **as** t **where** t.x2 = cdp.ConferenceDayReservationID) > 0  
 **or**(**select** 2 **from** (**select** cdpp.ConferenceDayReservationID **as** x1, *count*(cdpp.ParticipantID) **as** y1  
 **from** ConferenceDayParticipants cdpp  
 **inner join** Participants p  
 **on** P.ParticipantID = cdpp.ParticipantID  
 **left join** Students  
 **on** p.ParticipantID = students.ParticipantID  
 **where** LastName **is null and** students.ParticipantID **is null  
 group by** cdpp.ConferenceDayReservationID) **as** t **where** t.x1 = cdp.ConferenceDayReservationID) > 0)  
**go**

## UnpaidReservations

Pokazuje listę zamówień jeszcze nieopłaconych przez klientów.

**create view** UnpaidReservations  
**as  
select** ReservationID, CompanyName, DateOrdered  
**from** ConferenceReservations  
**join** Customers  
**on** ConferenceReservations.CustomerID = Customers.CustomerID  
**join** Companies  
**on** Customers.CustomerID = Companies.CompanyID  
**where** DatePaid **is null  
union  
select** ReservationID, (FirstName + ' ' + LastName), DateOrdered  
**from** ConferenceReservations  
**join** Customers  
**on** ConferenceReservations.CustomerID = Customers.CustomerID  
**join** PrivateCustomers  
**on** Customers.CustomerID = PrivateCustomers.CustomerID  
**join** Participants  
**on** PrivateCustomers.ParticipantID = Participants.ParticipantID  
**where** DatePaid **is null  
go**

## WorkshopReservationData

Widok pokazujący nazwę klienta, typ (prywatny/firmowy),

**CREATE VIEW** WorkshopReservationData **AS  
SELECT Name AS** 'Name', [Customer type], **Address**, Phone, Email, DateOrdered, DatePaid,   
 [Conference name], **Date**, DayOrdinal,  
 [Workshop name], [Workshop date],  
 [ReservedSeats]  
**FROM** DayWorkshopReservationData  
**WHERE** [Workshop name] **IS NOT null  
go**

## WorkshopsParticipantsList

Pokazuje listy osobowe uczestników zapisanych na warsztaty

**CREATE VIEW** [dbo].[WorkshopsParticipantsList]  
**AS  
SELECT** Conferences.Name **AS** 'Conference name', dbo.Workshops.Name **AS** 'Workshop name', dbo.ConferenceDays.Date, dbo.ConferenceDayWorkshops.StartTime,   
 dbo.ConferenceDayWorkshops.EndTime,  
 FirstName, LastName, StudentCardNumber, CompanyName  
**FROM** dbo.WorkshopParticipants  
**INNER JOIN** dbo.ConferenceDayWorkshops **ON** ConferenceDayWorkshops.ConferenceDayWorkshopID = WorkshopParticipants.ConferenceDayWorkshopID  
**INNER JOIN** dbo.Workshops **ON** Workshops.WorkshopID = ConferenceDayWorkshops.WorkshopID  
**INNER JOIN** dbo.ConferenceDays **ON** ConferenceDays.ConferenceDayID = ConferenceDayWorkshops.ConferenceDayID  
**INNER JOIN** dbo.Conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
**INNER JOIN** dbo.ConferenceDayParticipants **ON** ConferenceDayParticipants.ConferenceDayParticipantID = WorkshopParticipants.ConferenceDayParticipantID  
**INNER JOIN** dbo.Participants **ON** Participants.ParticipantID = ConferenceDayParticipants.ParticipantID  
**LEFT JOIN** dbo.Students **ON** Students.ParticipantID = Participants.ParticipantID  
**LEFT JOIN** dbo.EmployeesOfCompanies **ON** EmployeesOfCompanies.ParticipantID = Participants.ParticipantID  
**LEFT JOIN** dbo.Companies **ON** Companies.CompanyID = EmployeesOfCompanies.CompanyID  
**go**

## WorkshopsWithAvailablePlaces

Pokazuje informację o ilości miejsc zarezerwowanych na każdy z warsztatów i ilości wolnych miejsc.

**CREATE VIEW** [dbo].[WorkshopsWithAvailablePlaces]  
**AS  
SELECT** Conferences.Name **AS** 'Conference Name',  
 **Date**, Workshops.Name **AS** 'Workshop Name', StartTime, EndTime, Price,  
 ConferenceDayWorkshops.ParticipantsLimit **AS** 'Seats limit', *ISNULL*(*SUM*(ReservedSeats),0) **AS** 'Reserved seats',   
 ConferenceDayWorkshops.ParticipantsLimit - *ISNULL*(*SUM*(ReservedSeats),0) **AS** 'Available Places',   
 **Description  
FROM** Conferences  
**JOIN** ConferenceDays  
**ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
**JOIN** ConferenceDayWorkshops  
**ON** ConferenceDays.ConferenceDayID = ConferenceDayWorkshops.ConferenceDayID  
**JOIN** Workshops  
**ON** ConferenceDayWorkshops.WorkshopID = Workshops.WorkshopID  
**LEFT JOIN** WorkshopReservation  
**ON** ConferenceDayWorkshops.ConferenceDayWorkshopID = WorkshopReservation.ConferenceDayWorkshopID  
**GROUP BY** Conferences.ConferenceID, Conferences.Name, **Date**, StartDate, StartTime,  
 EndTime, Workshops.Name, Price, ConferenceDayWorkshops.ParticipantsLimit, **Description  
go**

# Funkcje

## BaseDayPrices

Zwraca tabelę z cenami bazowymi konferencji dla wszystkich konferencji z tej rezerwacji.

**CREATE FUNCTION** [dbo].*[BaseDayPrices]* (@ReservationID **INT**)   
**RETURNS TABLE  
AS  
RETURN**(  
 **SELECT DISTINCT** c.ConferenceID, c.BasePriceForDay  
 **FROM** ConferenceDayReservation cdr  
 **JOIN** ConferenceDays cd  
 **ON** cd.ConferenceDayID = cdr.ConferenceDayID  
 **JOIN** Conferences c  
 **ON** cd.ConferenceID = c.ConferenceID  
 **WHERE** cdr.ReservationID = @ReservationID  
);  
**go**

## CalculatePriceForReservation

Wyświetla sumaryczną cenę za dane zamówienie

## ConferenceDayReservationSize

Zwraca rozmiar rezerwacji dla danego ID

**CREATE FUNCTION** *ConferenceDayReservationSize*(@ConferenceDayReservationID **int**)  
**RETURNS INT  
AS  
BEGIN  
 DECLARE** @Size **INT** = (**SELECT** *SUM*(c.ReservedAdultSeats )+ *SUM*(c.ReservedAdultSeats)  
 **FROM** dbo.ConferenceDayReservation c  
 **WHERE** c.DayReservationID = @ConferenceDayReservationID)  
 **RETURN** @Size  
**END  
go**

## ConferenceOrderedAfterCreated

Zwraca dodatnią wartość jeśli rezerwacja nastąpiła po dacie utworzenia konferencji

**CREATE FUNCTION** *ConferenceOrderedAfterCreated* (@ConferenceDayID **INT**, @ReservationID **INT**)  
**RETURNS INT  
BEGIN  
 DECLARE** @ConfCreated **DATE** = (**SELECT** Conferences.CreatedOn **FROM** dbo.ConferenceDays  
 **INNER JOIN** Conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
 **WHERE** ConferenceDays.ConferenceDayID = @ConferenceDayID)  
 **DECLARE** @OrderDate **DATE** = (**SELECT** DateOrdered **FROM** dbo.ConferenceReservations  
 **WHERE** ReservationID = @ReservationID)  
 **RETURN** *DATEDIFF*(**DAY**, @ConfCreated, @OrderDate)  
**END  
go**

## ConferenceSize

Maksymalna ilość uczestników dla danego ID konferencji.

**CREATE FUNCTION** *ConferenceSize*(@ConferenceDayID **INT**)  
**RETURNS int  
BEGIN  
 DECLARE** @size **int** = (**SELECT** ParticipantsLimit **FROM** ConferenceDays  
 **INNER JOIN** conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
 **WHERE** ConferenceDayID = @ConferenceDayID)  
 **RETURN** @size  
**END  
go**

## DayReservationTotalSeats

Zwraca rozmiar rezerwacji dla danego ID

**CREATE FUNCTION** *DayReservationTotalSeats*(@ConferenceDayReservationID **INT**)  
**RETURNS INT  
BEGIN  
 DECLARE** @result **INT  
 SELECT** @result = *SUM*(ReservedAdultSeats) + *SUM*(ReservedStudentSeats)  
 **FROM** dbo.ConferenceDayReservation cdr  
 **WHERE** cdr.DayReservationID = @ConferenceDayReservationID  
 **RETURN** @result  
**end  
go**

## DiscountForConference

Zwraca zniżkę za date rezerwacji dla danego ID konferencji i dla danej daty.

**CREATE function** [dbo].*[DiscountForConference]*(@DateOrdered **date**, @ConferenceID **int**)  
**returns real  
as  
begin  
 declare** @TimeDiscount **real**;  
 **if not** *exists* (**select** DiscountRate  
 **from** ConferencePricetables cp  
 **where** cp.ConferenceID = @ConferenceID **and** @DateOrdered **between** cp.PriceStartsOn **and** cp.PriceEndsOn)  
 **set** @TimeDiscount = 0  
 **else  
 set** @TimeDiscount = (**select** DiscountRate  
 **from** ConferencePricetables cp  
 **where** cp.ConferenceID = @ConferenceID **and** @DateOrdered **between** cp.PriceStartsOn **and** cp.PriceEndsOn)  
 **return** @TimeDiscount  
**end  
go**

## DiscountForReservations

Zwraca tabelę zniżek za datę rezerwacji konferencji dla danego ID rezerwacji i danej daty.

**CREATE function** [dbo].*[DiscountForReservations]* (@DateOrdered **date**, @ReservationID **int**)   
**returns table  
as  
return**(  
 **SELECT distinct** c.ConferenceID, dbo.*DiscountForConference*(@DateOrdered, c.ConferenceID) **as** Discount  
 **from** ConferenceDayReservation cdr  
 **join** ConferenceDays cd  
 **on** cd.ConferenceDayID = cdr.ConferenceDayID  
 **join** Conferences c  
 **on** cd.ConferenceID = c.ConferenceID  
 **left join** ConferencePricetables cp  
 **on** c.ConferenceID = cp.ConferenceID  
 **where** cdr.ReservationID = @ReservationID  
 **group by** c.ConferenceID  
);  
**go**

## EmptySeatsInWorkshopReservation

Zwraca ilość wolnych miejsc w rezerwacji warsztatu lub -1 jeśli dla danego uczestnika w rezerwacji dnia konferencji z którą jest powiązany nie ma rezerwacji warszatatu.

**CREATE FUNCTION** [dbo].*[EmptySeatsInWorkshopReservation]* (@DayParticipantID **INT**, @ConferenceDayWorkshopID **int**)  
**RETURNS INT   
BEGIN  
 DECLARE** @SeatsReserved **INT**, @SeatsOccupied **INT**, @DayReservationID **INT  
 SELECT** @DayReservationID = ConferenceDayReservationID  
 **FROM** dbo.ConferenceDayParticipants  
 **WHERE** ConferenceDayParticipantID = @DayParticipantID  
 **SELECT** @SeatsReserved = ReservedSeats  
 **FROM** dbo.WorkshopReservation  
 **WHERE** ConferenceDayReservationID = @DayReservationID **AND** ConferenceDayWorkshopID = @ConferenceDayWorkshopID  
 **SELECT** @SeatsOccupied = *COUNT*(\*)  
 **FROM** dbo.WorkshopParticipants  
 **INNER JOIN** dbo.ConferenceDayParticipants **ON** ConferenceDayParticipants.ConferenceDayParticipantID = WorkshopParticipants.ConferenceDayParticipantID  
 **WHERE** ConferenceDayWorkshopID = @ConferenceDayWorkshopID **AND** ConferenceDayReservationID = @DayReservationID  
 **IF** @SeatsReserved **IS NULL RETURN** -1  
 **RETURN** @SeatsReserved - @SeatsOccupied  
**END  
go**

## FindCompanyByEmail, ~Phone, ~NIP, ~Name

Szukają firmy po odpowiednich danych

**CREATE function** [dbo].*[FindCompanyByEmail]* (@Email **varchar**(100))  
**returns int  
as  
begin  
 return** (**select** CompanyID **from** Companies **where** Email = @Email)  
**end  
go**

**create function** *FindCompanyByName* (@Name **varchar**(150))  
**returns int  
as  
begin  
 return** (**select** CompanyID **from** Companies **where** CompanyName = @Name)  
**end  
go**

**create function** *FindCompanyByNIP* (@NIP **char**(10))  
**returns int  
as  
begin  
 return** (**select** CompanyID **from** Companies **where** NIP = @NIP)  
**end  
go**

**create function** *FindCompanyByPhone* (@Phone **varchar**(15))  
**returns int  
as  
begin  
 return** (**select** CompanyID **from** Companies **where** Phone = @Phone)  
**end  
go**

## FindCustomerByEmail

Zwraca ID uczestnika po adresie e-mail.

**CREATE function** [dbo].*[FindCustomerByEmail]* (@Email **varchar**(100))  
**returns int  
as  
begin  
 declare** @CompanyID **int**;  
 **exec** @CompanyID = *FindCompanyByEmail* @Email;  
 **if** @CompanyID **is null  
 begin  
 declare** @ParticipantID **int**;  
 **EXEC** @ParticipantID = *FindParticipantByEmail* @Email;  
 **return** (**select** CustomerID **from** PrivateCustomers **where** ParticipantID = @ParticipantID)  
 **end  
 return** @CompanyID  
**end  
go**

## FindParticipantByEmail, ~Name

Zwraca ID uczestnika po odpowiednich danych

**CREATE function** [dbo].*[FindParticipantByEmail]* (@Email **varchar**(100))  
**returns int  
as  
begin  
 return** (**select** ParticipantID **from** Participants **where** Email = @Email)  
**end  
go**

**create function** *FindParticipantByName* (@FirstName **varchar**(30), @LastName **varchar**(50))  
**returns int  
as  
begin  
 return** (**select** ParticipantID **from** Participants **where** FirstName = @FirstName **and** LastName = @LastName)  
**end  
go**

## FindWorkshop

Znajduje warsztat z tabeli słownikowej po nazwie.

**CREATE function** *FindWorkshop* (@Name **VARCHAR**(200))  
**RETURNS INT   
BEGIN  
 DECLARE** @ID **INT** = (**SELECT** WorkshopID **FROM** dbo.Workshops **WHERE Name** = @Name)  
 **RETURN** @ID  
**END  
go**

## FindConferenceStartDate

Zwraca datę rozpoczęcia konferencji o danym ID.

**create function** *GetConferenceStartDate*(@ConferenceID **int**)  
**returns date  
as  
begin  
 return** (**select** StartDate **from** Conferences **where** ConferenceID = @ConferenceID)  
**end  
go**

## GetLatestDiscount

Zwraca najniższy próg cenowy dla danego ID konferencji

**CREATE function** [dbo].*[GetLatestDiscount]*(@ConferenceID **int**)  
**returns real  
as  
begin  
 declare** @discount **real**;  
 **if** *exists* (**select** \*  
 **from** ConferencePricetables  
 **where** ConferenceID = @ConferenceID)  
 **set** @discount = (**select** *min*(DiscountRate)  
 **from** ConferencePricetables  
 **where** ConferenceID = @ConferenceID)  
 **else  
 set** @discount = 1  
 **return** @discount  
**end  
go**

## GetNumberOfPaidReservationForCustomer

Zwraca liczbę opłaconych rezerwacji dla klienta o danym e-mailu.

**CREATE function** [dbo].*[GetNumberOfPaidReservationForCustomer]*(@Email **varchar**(100))  
**returns int  
begin  
 declare** @CustomerID **int**;  
 **exec** @CustomerID = dbo.*FindCustomerByEmail* @Email;  
 **return** (**select** *count*(\*)  
 **from** ConferenceReservations  
 **where** CustomerID = @CustomerID **and** DatePaid **is not null**)  
**end  
go**

## HasParticipantCollidingWorkshops

Informuje czy uczestnik jest w dwóch nachodzących na siebie czasowo warsztatach.

**CREATE FUNCTION** [dbo].*[HasParticipantCollidingWorkshops]*(@NewWorkshopID **INT**, @ConferenceDayParticipantID **int**)  
**RETURNS BIT  
BEGIN  
 DECLARE** @Times **TABLE** (  
 TimeID **INT PRIMARY KEY IDENTITY**(0,1),  
 StartTime **TIME**,  
 EndTime **time** )  
 **INSERT INTO** @Times  
 **SELECT** StartTime, EndTime  
 **FROM** dbo.WorkshopParticipants  
 **INNER JOIN** dbo.ConferenceDayWorkshops **ON** ConferenceDayWorkshops.ConferenceDayWorkshopID = WorkshopParticipants.ConferenceDayWorkshopID  
 **WHERE** ConferenceDayID = (**SELECT** ConferenceDayID  
 **FROM** dbo.ConferenceDayWorkshops  
 **WHERE** ConferenceDayWorkshopID = @NewWorkshopID)  
 **AND** ConferenceDayParticipantID = @ConferenceDayParticipantID;  
  
 **DECLARE** @has **BIT** = (**SELECT** *COUNT*(\*) **from** (**SELECT** a.TimeID  
 **FROM** @Times **AS** a  
 **INNER JOIN** @Times **AS** b **ON** ((a.StartTime **BETWEEN** b.StartTime **AND** b.EndTime) **OR** (a.EndTime **BETWEEN** b.StartTime **AND** b.EndTime) **OR** (a.StartTime < b.StartTime **AND** a.EndTime > b.EndTime))  
 **AND** (a.TimeID != b.TimeID)) **AS** t)  
 **RETURN** @has  
**END  
go**

## IsReservationByCompany

Mówi, czy dana rezerwacja po ID jest zrobiona przez firmę

**create function** *IsReservationByCompany* (@ReservationID **int**)  
**returns bit  
as  
begin  
 declare** @CompanyID **int  
 select** @CompanyID = Companies.CompanyID  
 **from** ConferenceReservations  
 **inner join** Customers **on** ConferenceReservations.CustomerID = Customers.CustomerID  
 **left join** Companies **on** customers.CustomerID = CompanyID  
 **where** ReservationID = @ReservationID  
 **if** @CompanyID **is not null begin return** 1 **end  
 return** 0  
**end  
go**

## IsReservationPaid

Mówi, czy rezerwacja została opłacona

**CREATE FUNCTION** *IsReservationPaid*(@ReservationID **INT**)  
**RETURNS BIT  
begin  
RETURN** (**SELECT** *COUNT*(\*) **FROM** (**SELECT** DatePaid  
 **FROM** ConferenceReservations  
 **WHERE** DatePaid **IS NOT NULL AND** ReservationID = @ReservationID) t)  
**END  
go**

## NewPriceAtTheDayAfterPrevious

Sprawdza, czy nowy próg cenowy jest zaraz po poprzednim.

**CREATE FUNCTION** [dbo].*[NewPriceAtTheDayAfterPrevious]*(@ConferenceID **INT**)  
**RETURNS int  
BEGIN  
  
 IF** (**SELECT** *COUNT*(\*) **FROM** dbo.ConferencePricetables) = 1 **RETURN** 1  
  
 **DECLARE** @Dates **TABLE** (  
 DateID **INT PRIMARY KEY IDENTITY**(1,1),  
 StartDate **date**,  
 EndDate **date** )  
 **INSERT INTO** @Dates (StartDate, EndDate)  
 **SELECT TOP** 2 PriceStartsOn, PriceEndsOn  
 **FROM** dbo.ConferencePricetables  
 **WHERE** ConferenceID = @ConferenceID  
 **ORDER BY** PriceStartsOn **DESC  
  
 DECLARE** @PrevStepEnd **DATE** = (**SELECT** EndDate **FROM** @Dates **WHERE** DateID = 2)  
 **DECLARE** @NewStepStart **DATE** = (**SELECT** StartDate **FROM** @Dates **WHERE** DateID = 1)  
 **RETURN** *DATEDIFF*(**DAY**, @PrevStepEnd, @NewStepStart)  
**END  
go**

## OrganisedLaterThanHired

Na potrzeby warunków integralnościowych sprawdza, czy pracownik zorganizował tylko konferencje po jego dacie zatrudnienia.

**CREATE FUNCTION** *OrganisedLaterThanHired* (@EmployeeID **int**, @ConferenceID **int**)  
**RETURNS int  
BEGIN  
 DECLARE** @HireDate **DATE** = (**SELECT** HireDate **FROM** dbo.OurEmployees **WHERE** EmployeeID = @EmployeeID)  
 **DECLARE** @ConfDate **DATE** = (**SELECT** StartDate **FROM** Conferences **WHERE** ConferenceID = @ConferenceID)  
 **RETURN** *DATEDIFF*(**DAY**, @HireDate, @ConfDate)  
**END  
go**

## ReservationEarlierThanConferenceDay

Sprawdza, czy dana rezerwacja została uczyniona przed danym dniem konferencji.

**CREATE FUNCTION** *ReservationEarlierThanConferenceDay*(@ConferenceDayID **int**, @ReservationID **INT**)  
**RETURNS INT  
BEGIN  
 DECLARE** @ConfDate **DATE** = (**SELECT Date FROM** dbo.ConferenceDays **WHERE** ConferenceDayID = @ConferenceDayID)  
 **DECLARE** @Orderdate **DATE** = (**SELECT** DateOrdered **FROM** dbo.ConferenceReservations **WHERE** ReservationID = @ReservationID)  
 **RETURN** *DATEDIFF*(**DAY**, @Orderdate, @ConfDate)  
**END  
go**

## ReservationPrices

Zwraca tabelę ze zniżkami za datę rezerwacji dla wszystkich konferencji z danej rezerwacji.

**create function** *ReservationPrices* (@DateOrdered **date**, @ReservationID **int**)   
**returns table  
as  
return**(  
 **select** base.ConferenceID, base.BasePriceForDay \* dis.Discount **as** AdultPrice,  
 base.BasePriceForDay \* dis.Discount \* stdis.StudentDiscount **as** StudentPrice  
 **from** dbo.*BaseDayPrices*(@ReservationID) base  
 **join** dbo.*DiscountForReservations*(@DateOrdered, @ReservationID) dis  
 **on** base.ConferenceID = dis.ConferenceID  
 **join** dbo.*StudentDiscountForReservations*(@ReservationID) stdis  
 **on** dis.ConferenceID = stdis.ConferenceID  
);  
**go**

## ReservedSeatsForWorkshop

Zwraca sumę miejsc zarezerwowanych na dany warsztat (po ID).

**CREATE FUNCTION** *ReservedSeatsForWorkshop*(@ConferenceDayWorkshopID **int**)  
**RETURNS int  
BEGIN  
 DECLARE** @Sum **INT** = (**SELECT** *SUM*(ReservedSeats)  
 **FROM** WorkshopReservation  
 **WHERE** ConferenceDayWorkshopID = @ConferenceDayWorkshopID)  
 **RETURN** @Sum  
**end  
go**

## ReservedSeatsPerConferenceDay

Zwraca ilość zarezerwowanych miejsc na daną konferencję po ID

**CREATE FUNCTION** [dbo].*[ReservedSeatsPerConferenceDay]*(@ConferenceDayID **INT**)  
**RETURNS INT  
BEGIN  
 DECLARE** @number **INT** = (**SELECT** *SUM*(ReservedAdultSeats) + *SUM*(ReservedStudentSeats)  
 **FROM** dbo.ConferenceDayReservation  
 **WHERE** ConferenceDayID = @ConferenceDayID)  
 **IF** @number **IS NULL BEGIN SET** @number = 0 **end  
 RETURN** @number  
**END  
go**

## StudentDiscountForReservations

Zwraca tabelę ze zniżkami studenckimi dla wszystkich konferencji z danej rezerwacji.

**CREATE function** [dbo].*[StudentDiscountForReservations]* (@ReservationID **int**)   
**returns table  
as  
return**(  
 **SELECT distinct** c.ConferenceID, c.StudentDiscount  
 **from** ConferenceDayReservation cdr  
 **join** ConferenceDays cd  
 **on** cd.ConferenceDayID = cdr.ConferenceDayID  
 **join** Conferences c  
 **on** cd.ConferenceID = c.ConferenceID  
 **where** cdr.ReservationID = @ReservationID  
);  
**go**

## ViewOrdersByEmailAsCustomer

Zwraca informacje o wszystkich zamówieniach danego klienta po adresie e-mail.

**CREATE FUNCTION** *ViewOrdersByEmailAsCustomer* (@CustomerEmail **VARCHAR**(100))  
**RETURNS** @Data **TABLE** (  
 DateOrdered **DATE**,  
 DatePaid **DATE**,  
 TotalAmount **MONEY**)  
**BEGIN  
 INSERT INTO** @Data (DateOrdered, DatePaid, TotalAmount)  
 **SELECT** DateOrdered, DatePaid, dbo.*CalculatePriceForReservation*(@CustomerEmail, DateOrdered)  
 **FROM** dbo.ConferenceReservations  
 **INNER JOIN** dbo.CustomerContactData **ON** CustomerContactData.CustomerID = ConferenceReservations.CustomerID  
 **WHERE** Email = @CustomerEmail  
 **RETURN   
END  
go**

## WorkshopReservationOnDayReservationConference

Zwraca 0 jeśli rezerwacja jest na warsztat tego samego dnia co rezerwacja konferencji.

**CREATE FUNCTION** *WorkshopReservationOnDayReservationConference* (@DayReservationID **INT**, @WorkshopInDayID **INT**)  
**RETURNS INT  
BEGIN  
 DECLARE** @ConferenceDayAtReservation **INT** = (**SELECT** ConferenceDayID **FROM** dbo.ConferenceDayReservation **WHERE** DayReservationID = @DayReservationID)  
 **DECLARE** @ConferenceDayAtWorkshop **INT** = (**SELECT** ConferenceDayID **FROM** dbo.ConferenceDayWorkshops **WHERE** ConferenceDayWorkshopID = @WorkshopInDayID)  
 **RETURN** @ConferenceDayAtReservation - @ConferenceDayAtWorkshop  
**END  
go**

## WorkshopSeatsLimit

Zwraca limit miejsc na dany warsztat po ID

**CREATE FUNCTION** [dbo].*[WorkshopSeatsLimit]*(@WorkshopID **INT**)  
**RETURNS INT  
AS  
BEGIN  
 DECLARE** @Limit **INT** = (**SELECT** ParticipantsLimit  
 **FROM** dbo.ConferenceDayWorkshops  
 **WHERE** ConferenceDayWorkshopID = @WorkshopID)  
 **RETURN** @Limit  
**end  
go**

# Procedury

## AddOurEmployee

Dodaj własnego pracownika.

**create procedure** *AddOurEmployee* @FirstName **varchar**(30),  
 @LastName **varchar**(50),  
 @BirthDate **date**,  
 @HireDate **date**,  
 @Phone **varchar**(15),  
 @Street **varchar**(74),  
 @HouseNumber **varchar**(5),  
 @AppartmentNumber **int**,  
 @CityName **varchar**(80),  
 @RegionName **varchar**(80),  
 @CountryName **varchar**(80),  
 @PostalCode **char**(6),  
 @Email **varchar**(100)  
**as  
begin  
 declare** @CityID **int  
 exec** *FindCity* @CityName, @RegionName, @CountryName, @CityID  
 **insert into** OurEmployees (FirstName, LastName, BirthDate, HireDate, Phone, Street ,HouseNumber ,AppartmentNumber ,CityID ,PostalCode ,Email)  
 **values** (  
 @FirstName, @LastName, @BirthDate, @HireDate, @Phone, @Street, @HouseNumber, @AppartmentNumber, @CityID, @PostalCode, @Email  
 )  
**end  
go**

## AddParticipantToWorkshop

Dodaj uczestnika do warsztatu po e-mailu

**CREATE PROCEDURE** *AddParticipantToWorkshop* @ParticipantEmail **VARCHAR**(100),  
 @ConferenceName **VARCHAR**(200),  
 @Date **DATE**,  
 @CustomerEmail **VARCHAR**(100),  
 @DateOrdered **DATE**,  
 @WorkshopName **VARCHAR**(200),  
 @StartTime **TIME  
AS  
BEGIN  
BEGIN TRY  
 BEGIN TRAN** tr  
 **DECLARE** @ConferenceDayParticipantID **INT**, @ParticipantID **INT**, @ConferenceDayReservationID **INT  
 EXEC** @ParticipantID = dbo.*FindParticipantByEmail* @Email = @ParticipantEmail -- varchar(100)  
 **EXEC** dbo.*FindConferenceDayReservation* @ConferenceName = @ConferenceName, -- varchar(200)  
 @ConfDayDate = @Date, -- date  
 @CustomerEmail = @CustomerEmail, -- varchar(100)  
 @DateOrdered = @DateOrdered, -- date  
 @ConferenceDayReservationID = @ConferenceDayReservationID **OUTPUT** -- int  
 -- Znaleźć ConferenceDayParticipantID do dodania  
 **SELECT** @ConferenceDayParticipantID = ConferenceDayParticipantID  
 **FROM** dbo.ConferenceDayParticipants  
 **WHERE** ParticipantID = @ParticipantID **AND** ConferenceDayReservationID = @ConferenceDayReservationID  
 **PRINT** 'DayParticipantID ' + *CAST* (@ConferenceDayParticipantID **AS VARCHAR**)  
 -- Znaleźć ConferenceDayWorkshopID  
 **DECLARE** @ConferenceDayWorkshopID **INT**;  
 **EXEC** dbo.*FindWorkshopInDay* @ConferenceName = @ConferenceName, -- varchar(200)  
 @Date = @Date, -- date  
 @WorkshopName = @WorkshopName, -- varchar(200)  
 @StartTime = @StartTime,  
 @ConferenceDayWorkshopID = @ConferenceDayWorkshopID **OUTPUT** -- int  
 **PRINT** 'ConferenceDayWorkshopID ' + *CAST*(@ConferenceDayWorkshopID **AS VARCHAR**)  
   
 **INSERT INTO** dbo.WorkshopParticipants  
 (  
 ConferenceDayParticipantID,  
 ConferenceDayWorkshopID  
 )  
 **VALUES** ( @ConferenceDayParticipantID, -- ConferenceDayParticipantID - int  
 @ConferenceDayWorkshopID -- ConferenceDayWorkshopID - int  
 )  
 **COMMIT TRAN** tr  
**END TRY  
BEGIN CATCH  
 PRINT** *ERROR\_MESSAGE*()  
 **ROLLBACK TRAN** tr  
**END CATCH  
END  
  
go**

## AddPriceStep

Dodaj przedział cenowy dla danej konferencji

**CREATE procedure** [dbo].*[AddPriceStep]* @ConferenceName **varchar**(200),  
 @ConferenceStartDate **date**,  
 @PriceStartsOn **date**,  
 @PriceEndsOn **date**,  
 @DiscountRate **real  
as  
declare** @ConferenceID **int**, @c **int  
exec** *FindConference* @ConferenceName, @ConferenceStartDate, @ConferenceID **output**, @c  
**begin  
 if** @ConferenceID **is null  
 begin  
 print** 'Nie znaleziono konferencji'  
 **return  
 end  
 insert into** ConferencePricetables (ConferenceID, PriceStartsOn, PriceEndsOn, DiscountRate)  
 **values** (@ConferenceID, @PriceStartsOn, @PriceEndsOn, @DiscountRate)  
**end  
go**

## AddPrivateCustomer

Dodaje nowego klienta prywatnego

**CREATE procedure** [dbo].*[AddPrivateCustomer]* @FirstName **VARCHAR**(30),  
 @LastName **VARCHAR**(50),  
 @ParticipantPhone **nvarchar**(15),  
 @Email **VARCHAR**(100),  
 @Street **nvarchar**(80),  
 @HouseNumber **nvarchar**(5),  
 @AppartmentNumber **int**,  
 @PostalCode **char**(6),  
 @CityName **varchar**(80),  
 @RegionName **varchar**(80),  
 @CountryName **varchar**(80)  
**as  
begin  
begin try  
 begin tran** tr  
 **DECLARE** @NewParticipantID **int  
 EXEC** dbo.*NewParticipant* @FirstName, -- varchar(30)  
 @LastName, -- varchar(50)  
 @ParticipantPhone, -- varchar(15)  
 @Email, -- varchar(50)  
 @NewParticipantID **OUTPUT  
 declare** @CityID **int  
 exec** *FindCity* @CityName, @RegionName, @CountryName, @CityID **output  
 insert into** Customers (Street, HouseNumber, AppartmentNumber, PostalCode, CityID)  
 **values** (  
 @Street, @HouseNumber, @AppartmentNumber, @PostalCode, @CityID  
 )  
 **insert into** PrivateCustomers (ParticipantID, CustomerID)  
 **values** (  
 @NewParticipantID, (**select** *max*(CustomerID) **from** Customers)  
 )  
 **commit tran** find  
**end try  
begin catch  
 rollback tran** tr  
**end catch  
end  
go**

## AddWorkshopAtDay

Dodaj warsztat do danego dnia konferencji

**create procedure** *AddWorkshopAtDay* @WorkshopName **varchar**(100),  
 @ConferenceName **varchar**(200),  
 @Day **smallint**,  
 @StartTime **time**,  
 @EndTime **time**,  
 @Price **money**,  
 @ParticipantsLimit **int  
as  
declare** @ConferenceDayID **int**,  
 @WorkshopID **int**;  
**begin  
 set** @WorkshopID = (**select** WorkshopID **from** Workshops **where Name** = @WorkshopName)  
 **if** @WorkshopID **is null begin  
 print** 'Brak warsztatu o podanej nazwie w bazie'  
 **return  
 end  
 set** @ConferenceDayID = (**select** ConferenceDayID  
 **from** ConferenceDays  
 **where** DayOrdinal = @Day **and** ConferenceID = (**select** ConferenceID  
 **from** Conferences  
 **where Name** = @ConferenceName))  
 **if** @ConferenceDayID **is null begin  
 print** 'Nie znaleziono konferencji'  
 **return  
 end  
 insert into** ConferenceDayWorkshops (ConferenceDayID, WorkshopID, StartTime, EndTime, Price, ParticipantsLimit)  
 **values** (  
 @ConferenceDayID,  
 @WorkshopID,  
 @StartTime,  
 @EndTime,  
 @Price,  
 @ParticipantsLimit  
 )  
**end  
go**

## BindOurEmployeeWithConference

Dodaje pracownika jako odpowiedzialnego za daną konferencję.

**CREATE procedure** [dbo].*[BindOurEmployeeWithConference]* @EmpEmail **VARCHAR**(100),  
 @ConferenceName **varchar**(200)  
**as  
begin  
 insert into** ConferenceEmployees (EmployeeID, ConferenceID) **values** (  
 (**select** EmployeeID **from** OurEmployees **where** Email = @EmpEmail),  
 (**select** ConferenceID **from** Conferences **where Name** = @ConferenceName)  
 )  
**end  
go**

## BindParticipantWithCompany

Powiązuje danego uczestnika z firmą która zarezerwowała jego miejsce.

**CREATE procedure** [dbo].*[BoundParticipantWithCompany]* @Email **varchar**(100),  
 @NIP **char**(10)  
**as  
declare** @ParticipantID **int**,  
 @CompanyID **int**;  
**exec** @ParticipantID = *FindParticipantByEmail* @Email;  
**EXEC** @CompanyID = dbo.*FindCompanyByNIP* @NIP = @NIP -- char(10)  
  
**begin  
insert into** EmployeesOfCompanies (ParticipantID, CompanyID)  
**values** (  
 @ParticipantID,  
 @CompanyID  
)  
**end  
go**

## DeleteUnpaidReservations

Usuwa wszystkie nieopłacone po tygodniu rezerwacje

**create procedure** *DeleteUnpaidReservations* **as  
begin  
begin try  
 begin tran** tr  
 **delete from** ConferenceReservations  
 **where** DatePaid **is null and** *DATEDIFF*(**day**, DateOrdered, *convert*(**date**, *getdate*())) > 7  
 **commit tran** tr  
**end try  
begin catch rollback tran** tr **end catch  
end** -- dopisać trigger usuwający rezerwację dni konferencji, warsztatów itd.  
**go**

## FillReservation

Uzupełnia uczestnika w danej rezerwacji

**CREATE PROCEDURE** [dbo].*[FillReservation]* @CustomerEmail **VARCHAR**(100),  
 @DateOrdered **DATE**,  
 @ConferenceName **VARCHAR**(200),  
 @ConfDayDate **DATE**,  
 @FirstName **VARCHAR**(30),  
 @LastName **VARCHAR**(50),  
 @ParticipantPhone **VARCHAR**(15),  
 @ParticipantEmail **VARCHAR**(100),  
 @StudentCardNumber **VARCHAR**(10),  
 @ParticipantID **INT OUTPUT  
AS  
BEGIN  
BEGIN TRY  
 BEGIN TRANSACTION** tr  
 -- Wyszukaj czy w bazie nie ma już uczestnika o takim mailu  
 **DECLARE** @FoundID **int  
 EXEC** @FoundID = dbo.*FindParticipantByEmail* @Email = @ParticipantEmail -- varchar(100)  
  
 -- Sprawdź czy dane są pełne  
 **IF** (@FirstName **IS NULL OR** @LastName **IS NULL OR** @ParticipantEmail **IS NULL**) **AND** @FoundID **IS null BEGIN  
 RAISERROR** ('Dane niepełne', 11,1)  
 **END** -- Znajdź rezerwację dnia  
 **DECLARE** @ReservationID **INT  
 EXEC** *FindConferenceDayReservation* @ConferenceName, @ConfDayDate, @CustomerEmail, @DateOrdered, @ReservationID **output  
 IF** @ReservationID **IS NULL BEGIN   
 RAISERROR** ('Nie znaleziono rezerwacji', 11,1)  
 **END** -- Znajdź wszystkie nieuzupełnione ParticipantID z tej rezerwacji  
 **DECLARE** @EmptyParticipantIDs **TABLE** (ParticipantID **INT NOT NULL**)  
 **INSERT INTO** @EmptyParticipantIDs (ParticipantID)  
 **SELECT** cdp.ParticipantID  
 **FROM** dbo.ConferenceDayParticipants cdp  
 **INNER JOIN** dbo.Participants **ON** Participants.ParticipantID = cdp.ParticipantID  
 **WHERE** ConferenceDayReservationID = @ReservationID **AND** LastName **IS NULL  
 DECLARE** @size **INT** = (**SELECT** *COUNT*(\*) **FROM** @EmptyParticipantIDs)  
   
 -- Wybierz ID które trzeba uzupełnić  
 **IF** @StudentCardNumber **IS NULL  
 SET** @ParticipantID = (**SELECT** *MIN*(ParticipantID) **FROM** (**SELECT** \* **FROM** @EmptyParticipantIDs **EXCEPT SELECT** ParticipantID **FROM** dbo.Students) t);  
 **ELSE  
 SET** @ParticipantID = (**SELECT** *MIN*(ParticipantID) **FROM** (**SELECT** \* **FROM** @EmptyParticipantIDs **INTERSECT SELECT** ParticipantID **FROM** dbo.Students) t);  
   
 **IF** @ParticipantID **IS NULL AND** @StudentCardNumber **IS NULL RAISERROR** ('Już nie ma miejsc dla dorosłych',11,1)  
 **IF** @ParticipantID **IS NULL AND** @StudentCardNumber **IS NOT NULL RAISERROR** ('Już nie ma miejsc dla studentów',11,1)  
  
 -- Jeśli jest jeszcze nieuzupełniona rezerwacja  
 **IF** @ParticipantID **IS NOT NULL BEGIN** -- Jeśli już jest uczestnik o takim mailu  
 **IF** @FoundID **IS NOT NULL BEGIN  
 UPDATE** ConferenceDayParticipants  
 **SET** ParticipantID = @FoundID  
 **WHERE** ParticipantID = @ParticipantID **AND** ConferenceDayReservationID = @ReservationID  
 **END ELSE BEGIN   
 UPDATE** dbo.Participants  
 **SET** FirstName = @FirstName, LastName = @LastName, Email = @ParticipantEmail, Phone = @ParticipantPhone   
 **WHERE** ParticipantID = @ParticipantID  
 **UPDATE** dbo.Students  
 **SET** StudentCardNumber = @StudentCardNumber  
 **WHERE** ParticipantID = @ParticipantID  
   
 **END   
 END  
   
 COMMIT TRANSACTION** tr  
**END TRY  
BEGIN CATCH  
 PRINT** *ERROR\_MESSAGE*()  
 **ROLLBACK TRAN** tr  
**END CATCH  
END  
go**

## FindCity

Znajduje miasto lub dodaje go do bazy, jeśli nie było wpisane

**CREATE procedure** [dbo].*[FindCity]* @CityName **nvarchar**(80),  
 @RegionName **nvarchar**(80),  
 @CountryName **nvarchar**(80),  
 @CityID **int output  
as  
begin  
begin try  
 begin tran** find  
 **if** @RegionName **is null or** @CountryName **is null raiserror** (15600, -1,-1, 'FindCity')  
 **set** @CityID = (**select** Cityid  
 **from** Cities  
 **inner join** Regions **on** Cities.RegionID = Regions.RegionID  
 **inner join** Countries **on** Countries.CountryID = Regions.CountryID  
 **where** CityName = @CityName **and** RegionName = @RegionName **and** CountryName = @CountryName)  
 **if** @CityID **is null begin  
 declare** @RegionID **int   
 exec** *FindRegion* @RegionName, @CountryName, @RegionID **output  
 insert into** Cities (CityName, RegionID) **values** (@CityName, @RegionID)  
 **set** @CityID = (**select** *max*(CityID) **from** Cities)  
 **end  
 commit tran** find  
**end try  
begin catch  
 rollback tran** find  
**end catch  
end  
go**

## FindConference

Znajduje konferencję i dzień konferencji po nazwie i dacie

**CREATE procedure** [dbo].*[FindConference]* @ConferenceName **varchar**(200),  
 @Date **date**,  
 @ConferenceID **int output**,  
 @ConferenceDayID **int output  
as  
begin  
begin try  
 begin tran** tr  
 **select** @ConferenceID = Conferences.ConferenceID  
 **from** Conferences  
 **inner join** ConferenceDays **on** Conferences.ConferenceID = ConferenceDays.ConferenceID  
 **where name** = @ConferenceName **AND** (@date **BETWEEN** StartDate **AND** EndDate)  
 **if** @ConferenceID **is not null begin  
 select** @ConferenceDayID = ConferenceDayID  
 **from** ConferenceDays  
 **where** ConferenceID = @ConferenceID **and Date** = @Date  
 **end  
 commit tran** tr  
**end try  
begin catch  
 rollback tran** tr  
**end catch  
end  
go**

## FindConferenceDayReservation

Znajduje ID rezerwacji dnia po nazwie konferencji, dniu, dniu zamówienia i e-mailu klienta

**create PROCEDURE** [dbo].*[FindConferenceDayReservation]* @ConferenceName **VARCHAR**(200), @ConfDayDate **DATE**, @CustomerEmail **VARCHAR**(100), @DateOrdered **DATE**,  
 @ConferenceDayReservationID **INT OUTPUT   
AS  
BEGIN  
 DECLARE** @ConferenceDayID **INT  
 EXEC** dbo.*FindConference* @ConferenceName = @ConferenceName, -- varchar(200)  
 @Date = @ConfDayDate, -- date  
 @ConferenceID = **NULL**, -- int  
 @ConferenceDayID = @ConferenceDayID **OUTPUT** -- int  
 **DECLARE** @ReservationID **INT**;  
 **EXEC** dbo.*FindReservation* @CustomerEmail = @CustomerEmail, -- varchar(100)  
 @DateOrdered = @DateOrdered, -- date  
 @ReservationID = @ReservationID **OUTPUT** -- int  
 (**SELECT** @ConferenceDayReservationID = DayReservationID  
 **FROM** dbo.ConferenceDayReservation  
 **WHERE** ReservationID = @ReservationID **AND** ConferenceDayID = @ConferenceDayID)  
**END  
go**

## FindCountry

Znajduje kraj lub dodaje go do bazy, jeśli nie ma go w bazie.

**CREATE procedure** [dbo].*[FindCountry]* @CountryName **varchar**(80),  
 @CountryID **int OUTPUT  
as  
begin  
 set nocount on  
 begin try  
 begin TRAN** FIND  
 **SET** @CountryID = (**select** countryID  
 **from** Countries  
 **where** countryname = @CountryName)  
 **if**(@CountryID **is null**) **begin  
 insert into** Countries (CountryName)  
 **values** (@CountryName);  
 **set** @CountryID = *@@IDENTITY*;  
 **end  
 COMMIT TRAN** FIND  
 **end try  
 begin catch  
 rollback tran** FIND  
 **end catch  
end**;  
**go**

## FindRegion

Znajduje region lub dodaje go do bazy, jeśli nie było go w bazie

**CREATE procedure** [dbo].*[FindRegion]* @RegionName **nvarchar**(80),  
 @CountryName **nvarchar**(80),  
 @RegionID **int output  
as  
begin  
 begin try  
 begin tran** find  
 **if** @CountryName **is null raiserror** (15600, -1, -1, 'FindRegion')  
 **set** @RegionID = (**select** RegionID  
 **from** Regions  
 **inner join** Countries **on** Countries.CountryID = Regions.CountryID  
 **where** regionname = @RegionName **and** CountryName = @CountryName)  
 **if** @RegionID **is null begin  
 declare** @CountryID **int  
 exec** *FindCountry* @CountryName, @CountryID **output  
 insert into** Regions (RegionName, CountryID) **values** (@RegionName, @CountryID)  
 **set** @RegionID = (**select** *max*(RegionID) **from** Regions)  
 **end  
 commit tran** find  
 **end try  
 begin catch  
 rollback tran** find  
 **end catch  
end  
go**

## FindReservation

Znajduje rezerwację po mailu klienta i dacie zamówienia

**CREATE procedure** [dbo].*[FindRegion]* @RegionName **nvarchar**(80),  
 @CountryName **nvarchar**(80),  
 @RegionID **int output  
as  
begin  
 begin try  
 begin tran** find  
 **if** @CountryName **is null raiserror** (15600, -1, -1, 'FindRegion')  
 **set** @RegionID = (**select** RegionID  
 **from** Regions  
 **inner join** Countries **on** Countries.CountryID = Regions.CountryID  
 **where** regionname = @RegionName **and** CountryName = @CountryName)  
 **if** @RegionID **is null begin  
 declare** @CountryID **int  
 exec** *FindCountry* @CountryName, @CountryID **output  
 insert into** Regions (RegionName, CountryID) **values** (@RegionName, @CountryID)  
 **set** @RegionID = (**select** *max*(RegionID) **from** Regions)  
 **end  
 commit tran** find  
 **end try  
 begin catch  
 rollback tran** find  
 **end catch  
end  
go**

## FindWorkshopInDay

Znajduje warsztat w dniu konferencji po nazwie, dacie i godzinie rozpoczęcia

**CREATE PROCEDURE** [dbo].*[FindWorkshopInDay]* @ConferenceName **VARCHAR**(200),  
 @Date **DATE**,  
 @WorkshopName **VARCHAR**(200),  
 @StartTime **TIME**,  
 @ConferenceDayWorkshopID **INT OUTPUT  
AS  
BEGIN  
 DECLARE** @WorkshopID **INT**, @ConferenceDayID **INT   
 EXEC** @WorkshopID = *FindWorkshop* @Name = @WorkshopName -- varchar(200)  
 **EXEC** dbo.*FindConference* @ConferenceName = @ConferenceName, -- varchar(200)  
 @Date = @Date, -- date  
 @ConferenceID = **null**, -- int  
 @ConferenceDayID = @ConferenceDayID **OUTPUT** -- int  
 **IF** @WorkshopID **IS NULL RAISERROR**('Nie ma tekiego warsztatu', 11,1)  
 **SELECT** @ConferenceDayWorkshopID = ConferenceDayWorkshopID  
 **FROM** dbo.ConferenceDayWorkshops  
 **WHERE** WorkshopID = @WorkshopID **AND** ConferenceDayID = @ConferenceDayID **AND** StartTime = @StartTime  
**END  
go**

## Invoice

Zwraca fakturę (wyszczególnione elementy zamówienia i dane klienta)

**CREATE PROCEDURE** [dbo].*[Invoice]* @CustomerEmail **VARCHAR**(100),   
 @DateOrdered **DATE**,  
 @InvoiceCustomerData **VARCHAR**(500) **output  
AS  
BEGIN  
  
 DECLARE** @ReservationId **INT  
 EXEC** dbo.*FindReservation* @CustomerEmail = @CustomerEmail, -- varchar(100)  
 @DateOrdered = @DateOrdered, -- date  
 @ReservationID = @ReservationID **OUTPUT** -- int  
  
 **SELECT** @InvoiceCustomerData = (**Name** + *CHAR*(10) + **Address**) **FROM** CustomerContactData **WHERE** CustomerID =   
 (**SELECT** CustomerID **FROM** dbo.ConferenceReservations **WHERE** ReservationID = @ReservationId)  
  
 **DECLARE** @DayReservations **TABLE** (  
 ID **INT PRIMARY KEY IDENTITY**(1,1),  
 ConfDayID **INT**,  
 AdultSeats **INT**,  
 StudentSeats **INT**,  
 DayDate **DATE**,  
 ConfName **VARCHAR**(200),  
 ConfID **int** )   
 **INSERT INTO** @DayReservations (ConfDayID, AdultSeats, StudentSeats, DayDate, ConfName, ConfID)  
 **SELECT** ConferenceDayReservation.ConferenceDayID, ReservedAdultSeats, ReservedStudentSeats, dbo.ConferenceDays.Date, Conferences.Name, Conferences.ConferenceID  
 **FROM** dbo.ConferenceDayReservation  
 **INNER JOIN** dbo.ConferenceDays **ON** ConferenceDays.ConferenceDayID = ConferenceDayReservation.ConferenceDayID  
 **INNER JOIN** dbo.Conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
 **WHERE** ReservationID = @ReservationId  
  
 **DECLARE** @WorkshopReserv **TABLE** (  
 ID **INT PRIMARY KEY IDENTITY**(1,1),  
 ConfDayID **INT**,  
 Seats **INT**,  
 DayDate **date**,  
 ConfName **VARCHAR**(200),  
 WorkshopName **VARCHAR**(200),  
 Price **MONEY**,  
 StartTime **TIME** )  
 **INSERT INTO** @WorkshopReserv (ConfDayID, Seats, DayDate, ConfName, WorkshopName, Price, StartTime)  
 **SELECT** dbo.ConferenceDayReservation.ConferenceDayID, dbo.WorkshopReservation.ReservedSeats, ConferenceDays.Date, Conferences.Name, Workshops.Name, Price, StartTime  
 **FROM** dbo.ConferenceDayReservation  
 **INNER JOIN** dbo.ConferenceDays **ON** ConferenceDays.ConferenceDayID = ConferenceDayReservation.ConferenceDayID  
 **INNER JOIN** dbo.Conferences **ON** Conferences.ConferenceID = ConferenceDays.ConferenceID  
 **INNER JOIN** dbo.ConferenceDayWorkshops **ON** ConferenceDayWorkshops.ConferenceDayID = ConferenceDays.ConferenceDayID  
 **INNER JOIN** dbo.Workshops **ON** Workshops.WorkshopID = ConferenceDayWorkshops.WorkshopID  
 **INNER JOIN** dbo.WorkshopReservation **ON** WorkshopReservation.ConferenceDayWorkshopID = ConferenceDayWorkshops.ConferenceDayWorkshopID **AND** WorkshopReservation.ConferenceDayReservationID = ConferenceDayReservation.DayReservationID  
 **WHERE** ReservationID = @ReservationId  
  
 **DECLARE** @Invoice **TABLE** (  
 **Description varchar**(500),  
 Quantity **INT**,  
 BasePrice **MONEY**,  
 OrderDiscount **REAL**,  
 StudentDiscount **REAL**,  
 FinalPrice **REAL** )  
  
 **DECLARE** @ReservPointer **INT** = 1, @ReservSize **INT** = (**SELECT** *COUNT*(\*) **FROM** (**SELECT** \* **FROM** @DayReservations) t), @Total **REAL** = 0.0  
 **WHILE** @ReservPointer <= @ReservSize **BEGIN  
 DECLARE** @AdultSeats **INT** = (**SELECT** AdultSeats **FROM** @DayReservations **WHERE** ID = @ReservPointer)  
 **DECLARE** @StudentSeats **INT** = (**SELECT** StudentSeats **FROM** @DayReservations **WHERE** ID = @ReservPointer)  
 **DECLARE** @ConfName **VARCHAR**(200) = (**SELECT** ConfName **FROM** @DayReservations **WHERE** Id = @ReservPointer)  
 **DECLARE** @ConfDate **DATE** = (**SELECT** DayDate **FROM** @DayReservations **WHERE** ID = @ReservPointer)  
 **DECLARE** @BaseDayPrice **money**, @DiscountForDay **REAL**, @DiscountForStudent **REAL  
 set** @BaseDayPrice = (**SELECT** BasePriceForDay **FROM** dbo.*BaseDayPrices*(@ReservationId) **WHERE** ConferenceID = (**SELECT** ConfID **FROM** @DayReservations **WHERE** ID = @ReservPointer))  
 **set** @DiscountForDay = (**SELECT** Discount **FROM** dbo.*DiscountForReservations*(@DateOrdered, @ReservationId) **WHERE** ConferenceID = (**SELECT** ConfID **FROM** @DayReservations **WHERE** ID = @ReservPointer))  
 **set** @DiscountForStudent = (**SELECT** StudentDiscount **FROM** dbo.*StudentDiscountForReservations*(@ReservationId) **WHERE** ConferenceID = (**SELECT** ConfID **FROM** @DayReservations **WHERE** ID = @ReservPointer))  
 **INSERT INTO** @Invoice  
 (  
 **Description**,  
 Quantity,  
 BasePrice,  
 OrderDiscount,  
 StudentDiscount,  
 FinalPrice  
 )  
 **VALUES** ( '"' + *CAST*(@ConfName **AS VARCHAR**) + '" ' + *CAST*(@ConfDate **AS VARCHAR**) + ' - miejsca normalne', -- Description - varchar(400)  
 @AdultSeats, -- Quantity - int  
 @BaseDayPrice, -- BasePrice - money  
 @DiscountForDay, -- OrderDiscount - real  
 0, -- StudentDiscount - real  
 @AdultSeats \* @BaseDayPrice \* (1 - @DiscountForDay) -- FinalPrice - real  
 )  
 **INSERT INTO** @Invoice  
 (  
 **Description**,  
 Quantity,  
 BasePrice,  
 OrderDiscount,  
 StudentDiscount,  
 FinalPrice  
 )  
 **VALUES** ( '"' + *CAST*(@ConfName **AS VARCHAR**) + '" ' + *CAST*(@ConfDate **AS VARCHAR**) + ' - miejsca studenckie', -- Description - varchar(400)  
 @StudentSeats, -- Quantity - int  
 @BaseDayPrice, -- BasePrice - money  
 @DiscountForDay, -- OrderDiscount - real  
 @DiscountForStudent, -- StudentDiscount - real  
 @StudentSeats \* (1 - @DiscountForDay) \* (1 - @DiscountForStudent) \* @BaseDayPrice -- FinalPrice - real  
 )  
  
 **SET** @Total = @Total + @StudentSeats \* (1 - @DiscountForDay) \* (1 - @DiscountForStudent) \* @BaseDayPrice + @AdultSeats \* @BaseDayPrice \* (1 - @DiscountForDay)  
 **SET** @ReservPointer = @ReservPointer + 1  
 **END  
  
 SET** @ReservPointer = 1  
 **SET** @ReservSize = (**SELECT** *COUNT*(\*) **FROM** (**SELECT** \* **FROM** @WorkshopReserv) t)  
 **WHILE** @ReservPointer <= @ReservSize **BEGIN  
 DECLARE** @Seats **INT** = (**SELECT** Seats **FROM** @WorkshopReserv **WHERE** ID = @ReservPointer)  
 **DECLARE** @ConfName2 **VARCHAR**(200) = (**SELECT** ConfName **FROM** @WorkshopReserv **WHERE** Id = @ReservPointer)  
 **DECLARE** @ConfDate2 **DATE** = (**SELECT** DayDate **FROM** @WorkshopReserv **WHERE** ID = @ReservPointer)  
 **DECLARE** @Time **TIME** = (**SELECT** StartTime **FROM** @WorkshopReserv **WHERE** ID = @ReservPointer)  
 **DECLARE** @WorkName **VARCHAR**(200) = (**SELECT** WorkshopName **FROM** @WorkshopReserv **WHERE** ID = @ReservPointer)  
 **DECLARE** @Price **MONEY** = (**SELECT** Price **FROM** @WorkshopReserv **WHERE** ID = @ReservPointer)  
 **INSERT INTO** @Invoice  
 (  
 **Description**,  
 Quantity,  
 BasePrice,  
 OrderDiscount,  
 StudentDiscount,  
 FinalPrice  
 )  
 **VALUES** ( 'Miejsca na warsztat "' + @WorkName + '" podczas konferencji "' + @ConfName2 + '" ' + *CAST*(@ConfDate2 **AS VARCHAR**) + ' godz. ' + *CAST*(@Time **AS VARCHAR**(5)),  
 @Seats, -- Quantity - int  
 @Price, -- BasePrice - money  
 0.0, -- OrderDiscount - real  
 0.0, -- StudentDiscount - real  
 @Seats \* @Price -- FinalPrice - real  
 )  
 **SET** @Total = @Total + @Seats \* @Price  
 **SET** @ReservPointer = @ReservPointer + 1  
 **END   
  
  
 INSERT INTO** @Invoice  
 (  
 **Description**,  
 Quantity,  
 BasePrice,  
 OrderDiscount,  
 StudentDiscount,  
 FinalPrice  
 )  
 **VALUES** ( 'Razem', -- Description - varchar(400)  
 **null**, -- Quantity - int  
 **NULL**, -- BasePrice - money  
 **null**, -- OrderDiscount - real  
 **null**, -- StudentDiscount - real  
 @Total -- FinalPrice - real  
 )  
   
 **SELECT** \* **FROM** @Invoice **WHERE** Quantity > 0 **OR** Quantity **IS NULL  
END  
go**

## MarkReservationAsPaid

Oznacza datę opłacenia rezerwacji jako datę dzisiejszą

**CREATE procedure** [dbo].*[MarkReservationAsPaid]* @Email **varchar**(100),  
 @DateOrdered **date  
as  
declare** @ReservationID **int**,  
 @CustomerID **int**;  
**EXEC** @CustomerID = dbo.*FindCustomerByEmail* @Email -- varchar(15)  
  
**begin  
 EXEC** dbo.*FindReservation* @CustomerEmail = @Email, -- varchar(15)  
 @DateOrdered = @DateOrdered,  
 @ReservationID = @ReservationID **OUTPUT** -- int  
   
 **update** ConferenceReservations  
 **set** DatePaid = *convert* (**date**, *getdate*())  
 **where** ReservationID = @ReservationID;  
**end  
go**

## NewCompany

Wprowadza nową firmę do bazy

**CREATE PROCEDURE** *NewCompany* @CompanyName **NVARCHAR**(150),  
 @NIP **CHAR**(10),  
 @Phone **VARCHAR**(15),  
 @Email **VARCHAR**(100),  
 @Street **NVARCHAR**(74),  
 @HouseNumber **VARCHAR**(5),  
 @AppartmentNumber **INT**,  
 @CityName **VARCHAR**(80),  
 @PostalCode **CHAR**(6),  
 @RegionName **VARCHAR**(80),  
 @CountryName **VARCHAR**(80)  
**AS  
BEGIN  
BEGIN TRY  
 BEGIN TRAN** tr  
 **DECLARE** @cityID **INT  
 EXEC** dbo.*FindCity* @CityName = @CityName, -- nvarchar(80)  
 @RegionName = @RegionName, -- nvarchar(80)  
 @CountryName = @CountryName, -- nvarchar(80)  
 @CityID = @CityID **OUTPUT** -- int  
 **INSERT INTO** dbo.Customers  
 (  
 Street,  
 HouseNumber,  
 AppartmentNumber,  
 CityID,  
 PostalCode  
 )  
 **VALUES** ( @Street, -- Street - nvarchar(74)  
 @HouseNumber, -- HouseNumber - nvarchar(5)  
 @AppartmentNumber, -- AppartmentNumber - int  
 @cityID, -- CityID - int  
 @PostalCode -- PostalCode - char(6)  
 )  
 **DECLARE** @CompanyID **INT** = (**SELECT** *MAX*(CustomerID) **FROM** dbo.Customers)  
 **INSERT INTO** dbo.Companies  
 (  
 CompanyID,  
 CompanyName,  
 NIP,  
 Phone,  
 Email  
 )  
 **VALUES** ( @CompanyID, -- CompanyID - int  
 @CompanyName, -- CompanyName - nvarchar(150)  
 @NIP, -- NIP - char(10)  
 @Phone, -- Phone - varchar(12)  
 @Email -- Email - varchar(100)  
 )  
 **COMMIT TRAN** tr  
**END TRY  
BEGIN CATCH  
 ROLLBACK TRAN** tr  
**END CATCH  
END  
go**

## NewConference

Dodaje nową konferencję

**CREATE procedure** [dbo].*[NewConference]* @Name **varchar**(200),  
 @StartDate **date**,  
 @EndDate **date**,  
 @BasePrice **money**,  
 @StudentDiscount **real**,  
 @ParticipantLimit **int**,  
 @Street **varchar**(74),  
 @HouseNumber **varchar**(5),  
 @AppartmentNumber **int**,  
 @City **varchar**(80),  
 @Region **varchar**(80),  
 @Country **varchar**(80),  
 @PostalCode **char**(6)  
**as  
begin  
declare** @CityID **int**;  
**exec** *FindCity* @City, @Region, @Country, @CityID **output**;  
**insert into** Conferences (**Name**, StartDate, EndDate, BasePriceForDay, StudentDiscount, ParticipantsLimit,  
 Street, HouseNumber, AppartmentNumber, CityID, PostalCode)  
**values** (  
 @Name,  
 @StartDate,  
 @EndDate,  
 @BasePrice,  
 @StudentDiscount,  
 @ParticipantLimit,  
 @Street,  
 @HouseNumber,  
 @AppartmentNumber,  
 @CityID,  
 @PostalCode  
 )  
**end  
go**

## NewConferenceReservation

Dodaje do bazy nowe zamówienie

**CREATE procedure** [dbo].*[NewConferenceReservation]* @CustomerEmail **varchar**(100),  
 @ReservationID **int output  
as  
begin  
begin try  
 begin tran** tr  
 **declare** @CustomerID **int  
 EXEC** @CustomerID = dbo.*FindCustomerByEmail* @CustomerEmail -- varchar(15)  
   
 **if** @CustomerID **is not null begin  
 insert into** ConferenceReservations (CustomerID)  
 **values** (@CustomerID)  
 **set** @ReservationID = *@@IDENTITY* **end  
 commit tran** tr  
**end try  
begin CATCH  
 PRINT** *ERROR\_MESSAGE*()  
 **rollback tran** tr  
**end catch  
end  
go**

## NewDayReservation

Dodaje nową rezerwację dnia

**CREATE procedure** [dbo].*[NewDayReservation]* @CustomerEmail **varchar**(100),  
 @ConferenceName **varchar**(200),  
 @ConferenceDayDate **date**,  
 @OrderDate **DATE**,  
 @AdultSeats **int**,  
 @StudentSeats **int  
as  
begin  
begin try  
 begin tran** tr  
 **DECLARE** @ConferenceID **INT**,  
 @ConferenceDayID **INT**;  
 **EXEC** dbo.*FindConference* @ConferenceName = @ConferenceName, -- varchar(200)  
 @Date = @ConferenceDayDate, -- date  
 @ConferenceID = @ConferenceID **OUTPUT**, -- int  
 @ConferenceDayID = @ConferenceDayID **OUTPUT** -- int  
 **if** @ConferenceDayID **is not null begin  
 declare** @ReservationID **int  
 exec** *FindReservation* @CustomerEmail, @OrderDate, @ReservationID **OUTPUT  
 insert into** dbo.ConferenceDayReservation   
 (ConferenceDayID, ReservedAdultSeats, ReservedStudentSeats, ReservationID)  
 **values** (@ConferenceDayID, @AdultSeats, @StudentSeats, @ReservationID)  
 **end  
 commit tran** tr  
**end try  
begin CATCH  
 PRINT** *ERROR\_MESSAGE*()  
 **rollback tran** tr **end catch  
end  
go**

## NewParticipant

Dodaje uczestnika

**CREATE procedure** [dbo].*[NewParticipant]* @FirstName **varchar**(30),  
 @LastName **varchar**(50),  
 @Phone **varchar**(15),  
 @Email **varchar**(50),  
 @ParticipantID **INT OUTPUT  
as  
begin  
insert into** Participants (FirstName, LastName, Phone, Email) **values** (@FirstName, @LastName, @Phone, @Email)  
**SET** @ParticipantID = (**SELECT** *MAX*(ParticipantID) **FROM** dbo.Participants)  
**end  
go**

## NewWorkshop

Dodaje warsztat do relacji słownikowej

**create procedure** *NewWorkshop* @Name **varchar**(100),  
 @Description **varchar**(1000)  
**as  
begin  
insert into** Workshops (**Name**, **Description**) **values** (@Name, @Description)  
**end  
go**

## NewWorkshopReservation

Dodaje nową rezerwację na warsztat

**CREATE PROCEDURE** [dbo].*[NewWorkshopReservation]* @ConferenceName **VARCHAR**(200),  
 @ConfDayDate **DATE**,  
 @WorkshopName **VARCHAR**(200),  
 @StartTime **TIME** ,  
 @CustomerEmail **VARCHAR**(100),  
 @DateConferenceOrdered **DATE**,  
 @SeatsReserved **INT  
AS  
BEGIN  
BEGIN TRY  
 BEGIN TRAN** TR  
 **DECLARE** @DayReservationID **INT**, @WorkshopInDayID **INT  
 EXEC** *FindWorkshopInDay* @ConferenceName, @ConfDayDate, @WorkshopName, @StartTime, @WorkshopInDayID **OUTPUT  
 EXEC** dbo.*FindConferenceDayReservation* @ConferenceName = @ConferenceName, -- varchar(200)  
 @ConfDayDate = @ConfDayDate, -- date  
 @CustomerEmail = @CustomerEmail, -- varchar(100)  
 @DateOrdered = @DateConferenceOrdered, -- date  
 @ConferenceDayReservationID = @DayReservationID **OUTPUT** -- int  
 **IF** @DayReservationID **IS NULL RAISERROR**('Nie znaleziono rezerwacji',11,1)  
 **IF** @WorkshopInDayID **IS NULL RAISERROR** ('Nie znaleziono warsztatu',11,1)  
 **INSERT INTO** dbo.WorkshopReservation  
 (  
 ConferenceDayWorkshopID,  
 ConferenceDayReservationID,  
 ReservedSeats  
 )  
 **VALUES** ( @WorkshopInDayID, -- ConferenceDayWorkshopID - int  
 @DayReservationID, -- ConferenceDayReservationID - int  
 @SeatsReserved -- ReservedSeats - int  
 )  
 **COMMIT TRAN** TR  
**END TRY  
BEGIN CATCH  
 PRINT** *ERROR\_MESSAGE*()  
 **ROLLBACK TRAN** TR  
**END CATCH  
end  
go**

## ShowParticipantsOfConference

Pokazuje uczestników konferencji o danym ID

**create procedure** *ShowParticipantsOfConference* @ConferenceID **int  
as  
begin  
 select** FirstName, LastName, participants.Phone, CompanyName  
 **from** ConferenceDayParticipants  
 **inner join** Participants **on** Participants.ParticipantID = ConferenceDayParticipants.ParticipantID  
 **inner join** EmployeesOfCompanies **on** Participants.ParticipantID = EmployeesOfCompanies.ParticipantID  
 **inner join** Companies **on** EmployeesOfCompanies.CompanyID = Companies.CompanyID  
 **inner join** ConferenceDayReservation **on** ConferenceDayReservationID = DayReservationID  
 **inner join** ConferenceDays **on** ConferenceDayReservation.ConferenceDayID = ConferenceDays.ConferenceDayID  
 **where** ConferenceDays.ConferenceID = @ConferenceID  
**end  
go**

## ShowParticipantsOfConferenceDay

Pokazuje uczestników dnia konferencji o danym ID i danym numerze dnia wewnątrz konferencji.

**create procedure** *ShowParticipantsOfConferenceDay* @ConferenceID **int**,  
 @ConferenceDayOrdinal **int  
as  
begin  
 select** FirstName, LastName, participants.Phone, CompanyName  
 **from** ConferenceDayParticipants  
 **inner join** Participants **on** Participants.ParticipantID = ConferenceDayParticipants.ParticipantID  
 **inner join** EmployeesOfCompanies **on** Participants.ParticipantID = EmployeesOfCompanies.ParticipantID  
 **inner join** Companies **on** EmployeesOfCompanies.CompanyID = Companies.CompanyID  
 **inner join** ConferenceDayReservation **on** ConferenceDayReservationID = DayReservationID  
 **inner join** ConferenceDays **on** ConferenceDayReservation.ConferenceDayID = ConferenceDays.ConferenceDayID  
 **where** ConferenceDays.DayOrdinal = @ConferenceDayOrdinal **and** ConferenceDays.ConferenceID = @ConferenceID  
**end  
go**

# Generator

Dane do bazy zostały w większości wygenerowane przez program SQL Data Generator firmy RedGate. Do danych, które wymagały większej precyzji z powodu narzuconych dokładnie warunków integralnościowych napisano programy w Javie generujące polecenia INSERT INTO.

## Kod generujący uzupełnianie pustych krotek Students powstałych w wyniku działania triggera

import java.io.BufferedWriter;  
import java.io.FileWriter;  
import java.io.IOException;  
import java.io.PrintWriter;  
import java.nio.file.Files;  
import java.nio.file.Path;  
import java.util.List;  
import java.util.Random;  
import java.util.stream.Collectors;  
  
public class Shuffler {  
  
 static String randomID() {  
 String toReturn = "";  
 for(int i = 0; i < 6; i++) {  
 toReturn = toReturn.concat(Integer.*toString*(new Random().nextInt(10)));  
 }  
 return toReturn;  
 }  
  
 public static void main(String ... args) throws IOException {  
  
 Path c = Path.*of*("C:\\Program Files (x86)\\Red Gate\\SQL Data Generator 4\\Config\\NamesFirst.txt");  
 Path s = Path.*of*("C:\\Program Files (x86)\\Red Gate\\SQL Data Generator 4\\Config\\NamesLast.txt");  
 Path p = Path.*of*("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\participantids.txt");  
 Path out = Path.*of*("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\res2.sql");  
  
 List<String> firstNames = Files.*lines*(c).collect(Collectors.*toList*());  
 List<String> lastNames = Files.*lines*(s).collect(Collectors.*toList*());  
 List<String> participantIds = Files.*lines*(p).collect(Collectors.*toList*());  
 Random r = new Random();  
  
 try(FileWriter fw = new FileWriter(out.toFile(), true);  
 BufferedWriter bw = new BufferedWriter(fw);  
 PrintWriter outt = new PrintWriter(bw)) {  
 for (String participantId : participantIds) {  
 outt.println("update Students set StudentCardNumber = '" + *randomID*() + "' where ParticipantID = " + participantId + "\ngo");  
 }  
  
 } catch(IOException e) {  
 e.printStackTrace();  
 }  
  
 }  
  
}

## Kod generujący następujące po sobie progi cenowe

import java.io.IOException;  
import java.nio.file.Files;  
import java.nio.file.Path;  
import java.text.DecimalFormat;  
import java.time.LocalDate;  
import java.time.format.DateTimeFormatter;  
import java.util.List;  
import java.util.Random;  
import java.util.stream.Collectors;  
  
public class Shuffler {  
  
 public static void main(String ... args) throws IOException {  
  
 Path c = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\createdates.txt");  
 Path s = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\startdates.txt");  
 Path cid = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\confids.txt");  
 DateTimeFormatter dtf = DateTimeFormatter.ofPattern("yyyy-MM-dd");  
 List<String> conferenceIds = Files.lines(cid).collect(Collectors.toList());  
 List<LocalDate> createDates = Files.lines(c).map(d -> LocalDate.from(dtf.parse(d))).collect(Collectors.toList());  
 List<LocalDate> startDates = Files.lines(s).map(d -> LocalDate.from(dtf.parse(d))).collect(Collectors.toList());  
  
 Random r = new Random();  
  
 for(int i = 0; i < conferenceIds.size(); i++) {  
 LocalDate createdOn = createDates.get(i).minusDays(1);  
 LocalDate startOn = startDates.get(i);  
 String conferenceId = conferenceIds.get(i);  
 System.out.println("insert into ConferencePricetables (ConferenceID, PriceStartsOn, PriceEndsOn, DiscountRate) " +  
 "values (" + conferenceId + ", '" + dtf.format(createdOn) + "', '" + dtf.format(createdOn) + "', 1)\ngo");  
 double currentDiscount = (r.nextDouble() + 1) / 2;  
 LocalDate currentEndDiscountDate = createdOn;  
 while(currentDiscount > 0) {  
 LocalDate newDiscountStart = currentEndDiscountDate.plusDays(1);  
 int discountLength = r.nextInt(10) + 7;  
 LocalDate newDiscountEnd = newDiscountStart.plusDays(discountLength);  
 if(newDiscountEnd.isAfter(startOn.minusDays(1))) break;  
 currentDiscount -= r.nextDouble() / 2;  
 if(currentDiscount < 0) break;  
 System.out.println("insert into ConferencePricetables (ConferenceID, PriceStartsOn, PriceEndsOn, DiscountRate) " +  
 "values (" + conferenceId + ", '" + dtf.format(newDiscountStart) + "', '" + dtf.format(newDiscountEnd) + "', " + currentDiscount + ")");  
 System.out.println("go");  
 currentEndDiscountDate = newDiscountEnd;  
 }  
 }  
  
 }  
  
}

## Kod generujący uzupełnianie pustych krotek Participants powstałych w wyniku działania triggera

import java.io.BufferedWriter;  
import java.io.FileWriter;  
import java.io.IOException;  
import java.io.PrintWriter;  
import java.nio.file.Files;  
import java.nio.file.Path;  
import java.util.List;  
import java.util.Random;  
import java.util.stream.Collectors;  
  
public class Shuffler {  
  
 static String randomPhone() {  
 String phone = "";  
 Random r = new Random();  
 for(int i = 0; i < 9; i++) {  
 phone = phone.concat(Character.toString((char) (r.nextInt(9) + 49)));  
 }  
 return phone;  
 }  
  
 static String randomEmail() {  
 String allowedChars = "abcdefghijklmnopqrstuvwxyz0123456789";  
 String email = "";  
 Random r = new Random();  
 int length = r.nextInt(8) + 6;  
 for(int i = 0; i < length; i++) {  
 email = email.concat(Character.toString(allowedChars.charAt(r.nextInt(allowedChars.length()))));  
 }  
 return email + "@example.com";  
 }  
  
 public static void main(String ... args) throws IOException {  
  
 Path c = Path.of("C:\\Program Files (x86)\\Red Gate\\SQL Data Generator 4\\Config\\NamesFirst.txt");  
 Path s = Path.of("C:\\Program Files (x86)\\Red Gate\\SQL Data Generator 4\\Config\\NamesLast.txt");  
 Path p = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\participantids.txt");  
 Path out = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\res2.sql");  
  
 List<String> firstNames = Files.lines(c).collect(Collectors.toList());  
 List<String> lastNames = Files.lines(s).collect(Collectors.toList());  
 List<String> participantIds = Files.lines(p).collect(Collectors.toList());  
 Random r = new Random();  
  
 try(FileWriter fw = new FileWriter(out.toFile(), true);  
 BufferedWriter bw = new BufferedWriter(fw);  
 PrintWriter outt = new PrintWriter(bw)) {  
 for (String participantId : participantIds) {  
 outt.println("update Participants set FirstName = '" + firstNames.get(r.nextInt(firstNames.size())) + "', " +  
 "LastName = '" + lastNames.get(r.nextInt(lastNames.size())) + "', Phone = '" + randomPhone() +  
 "', Email = '" + randomEmail() + "' where LastName is null and ParticipantID = " + participantId + "\ngo");  
 }  
  
 } catch(IOException e) {  
 e.printStackTrace();  
 }  
  
 }  
  
}

## Kod generujący nazwy warsztatów

import java.util.Arrays;  
import java.util.Collections;  
import java.util.List;  
import java.util.Random;  
  
public class Shuffler {  
  
 public static void main(String ... args) {  
  
 List<String> words = Arrays.asList("Zabawa","Czesto","Nigdy","Czlowiek","Zdrowie","Odpoczynek",  
 "Zaufanie", "Prawie", "Zupelnie", "Pewnosc", "Czystosc", "Jednoznacznie", "Praktycznie", "Rower", "Kanibalizm",  
 "Z Pomyslem", "Polska", "Reedukacja", "Ciekawie");  
  
 for(int i = 0; i < 1000; i++) {  
 int l = new Random().nextInt(4) + 2;  
 Collections.shuffle(words);  
 StringBuilder sb = new StringBuilder();  
 for(int j = 0; j < l; j++) sb.append(words.get(j)).append(" ");  
 System.out.println(sb.toString().trim());  
 }  
  
 }  
  
}

## Kod generujący uczestników warsztatów (indeksy w plikach spełniają constrainty)

import java.io.BufferedWriter;  
import java.io.FileWriter;  
import java.io.IOException;  
import java.io.PrintWriter;  
import java.nio.file.Files;  
import java.nio.file.Path;  
import java.util.List;  
import java.util.stream.Collectors;  
  
public class Shuffler {  
  
 public static void main(String ... args) throws IOException {  
  
 Path c = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\workshopids.txt");  
 Path s = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\participantids.txt");  
 Path out = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\res.sql");  
  
 List<String> workshopIds = Files.lines(c).collect(Collectors.toList());  
 List<String> participantIds = Files.lines(s).collect(Collectors.toList());  
  
 try(FileWriter fw = new FileWriter(out.toFile(), true);  
 BufferedWriter bw = new BufferedWriter(fw);  
 PrintWriter outt = new PrintWriter(bw)) {  
 for (int i = 0; i < workshopIds.size(); i++) {  
 outt.println("insert into WorkshopParticipants (ConferenceDayParticipantID, ConferenceDayWorkshopID) values (" +  
 participantIds.get(i) + ", " + workshopIds.get(i) + ")\ngo");  
 }  
  
 } catch(IOException e) {  
 e.printStackTrace();  
 }  
  
 }  
  
}

## Kod generujący rezerwacje na warsztaty

import java.io.IOException;  
import java.nio.file.Files;  
import java.nio.file.Path;  
import java.nio.file.StandardOpenOption;  
import java.util.List;  
import java.util.Random;  
import java.util.stream.Collectors;  
  
public class Shuffler {  
  
 public static void main(String ... args) throws IOException {  
  
 Path p = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\dayreservationids.txt");  
 List<Integer> reservationIds = Files.lines(p).mapToInt(Integer::parseInt).boxed().collect(Collectors.toList());  
 Path w = Path.of("C:\\Users\\Lenovo\\Desktop\\AGH\\nauka\\Sem 3\\Bazy Danych\\projekt\\generator danych\\workshopids.txt");  
 List<Integer> workshopIds = Files.lines(w).mapToInt(Integer::parseInt).boxed().collect(Collectors.toList());  
 int reservationIdsSize = reservationIds.size();  
 int workshopIdsSize = workshopIds.size();  
  
 Random r = new Random();  
  
 for(int i = 0; i < 50000; i++) {  
 int seats = r.nextInt(20) + 1;  
 int index = r.nextInt(11930);  
 int reservationId = reservationIds.get(index);  
 int workshopId = workshopIds.get(index);  
 StringBuilder sql = new StringBuilder("insert into WorkshopReservation " +  
 "(ConferenceDayWorkshopID, ConferenceDayReservationID, ReservedSeats) values (");  
 if (r.nextDouble() > 3.0 / 4.0) {  
 seats = 1;  
 }  
 sql.append(workshopId + ", " + reservationId + ", " + seats + ")");  
 sql.append("\ngo");  
 System.out.println(sql);  
 }  
  
 }  
  
}

## Poprawki do kodu wygenerowanego przez SQL Data Generator

UPDATE dbo.Conferences SET PostalCode = NULL WHERE CityID IS NULL

UPDATE Conferences SET StudentDiscount = ROUND(StudentDiscount,2)

UPDATE Conferences SET BasePriceForDay = ROUND(BasePriceForDay,2)

DELETE FROM dbo.ConferenceDayWorkshops WHERE [dbo].[ConferenceSize]([ConferenceDayID])<[ParticipantsLimit]

UPDATE dbo.ConferenceDayWorkshops SET price = 0 WHERE price IS NULL

UPDATE dbo.ConferenceDayWorkshops SET price = ROUND(Price, 1)

UPDATE dbo.ConferenceDayWorkshops SET StartTime = CONVERT(varchar(5), StartTime)

UPDATE dbo.ConferenceDayWorkshops SET EndTime = CONVERT(VARCHAR(5), EndTime)

DELETE FROM ConferenceReservations WHERE ReservationID NOT IN (SELECT ReservationID FROM ConferenceDayReservation)

DELETE FROM ConferencePricetables WHERE DiscountRate < 0.01