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PODSTAWY BAZ DANYCH | PROJEKT

INSTYTUT INFORMATYKI WIEIT AGH

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Projekt dotyczy systemu wspomagania działalności firmy świadczącej usługi gastronomiczne dla klientów indywidualnych oraz firm.

Listopad 2021 - Styczeń 2022

1. Aktorzy:

1. Administrator systemu
2. Menadżer restauracji
3. Pracownik restauracji
4. Firma
5. Klient prywatny (klient indywidualny)
6. System

2. Funkcje bazy danych:

1. Wybieranie menu:

- System wybiera menu z co najmniej dziennym wyprzedzeniem
- System automatycznie wymienia danie z menu, którego ilość w magazynie (**UnitsInStock** z tabeli **DishesHistory**), jest mniejsza od minimalnej wymaganej wartości (**MinStockValue** z tabeli **Dishes**)
- W tabeli **DishesHistory** będzie widniała data dodania dania oraz usunięcia z menu
- Menedżer w dowolnym momencie może zmienić pozycję z menu

2. Obsługa zamówień:

- Klient ma możliwość złożenia zamówienia online, po wcześniejszym założeniu konta
- Klient może zamówić dowolną dostępną ilość danego dania, jeśli widnieje ono w menu
- Jeśli klient chce zamówić danie z kategorii "Owoce morza", to musi zrobić do poniedziałku poprzedzającego zamówienie
- System automatycznie zatwierdza zamówienia składane online

3. Zarządzanie rezerwacjami:

- Klient indywidualny może zarezerwować jeden stolik, gdy spełni odpowiednie założenia widoczne w tabeli

ReservationRequirements:

- ❖ Wcześniej dokonał **WKValue** zamówień
- ❖ Wartość wszystkich poprzednich zamówień wyniosła przynajmniej **WZValue** złotych
- Klient indywidualny musi złożyć zamówienie przy rezerwacji stolika
- Rezerwacja musi zostać zatwierdzona przez pracownika, który przydziela stolik
- Firmy mogą dokonywać rezerwacji stolików bez imiennego rozróżnienia gości lub dla każdego pracownika imiennie.

4. Zarządzanie rabatami:

- Rabaty są automatycznie przyznawane po spełnieniu przez klienta aktualnych warunków widocznych w **Discounts** i opisanych w **DiscountSetDetails**.
- Menedżer może zmienić progi rabatowe oraz dodać nowe warunki rabatów
- Rabaty podzielone są na dwa typy, dożywotni oraz cykliczny

5. Monitorowanie magazynu:

- Podczas składania zamówienia sprawdzana jest ilość dostępnych porcji danego dania w magazynie (**UnitsInStock** z tabeli **DishesHistory**)
- Ilość dostępnych dań **UnitsInStock** jest automatycznie aktualizowana po zatwierdzeniu płatności
- Gdy zabraknie dania, to jest ono automatycznie usuwane z menu
- We wtorek menedżer zostanie poinformowany ile konkretnych dań z kategorii “Owoce morza” musi zostać zamówione, aby wszyscy klienci zostali obsłużeni (generowana informacja jest na podstawie tabeli **Orders** i **Order Details** po uwzględnieniu zakresu daty, w którym składane były zamówienia)

6. Generowanie raportów:

- Menadżer ma możliwość generowanie miesięcznych i tygodniowych raportów, dotyczących rezerwacji stolików, rabatów, menu, a także statystyk zamówienia – dla klientów indywidualnych oraz firm – dotyczących kwot oraz czasu składania zamówień.

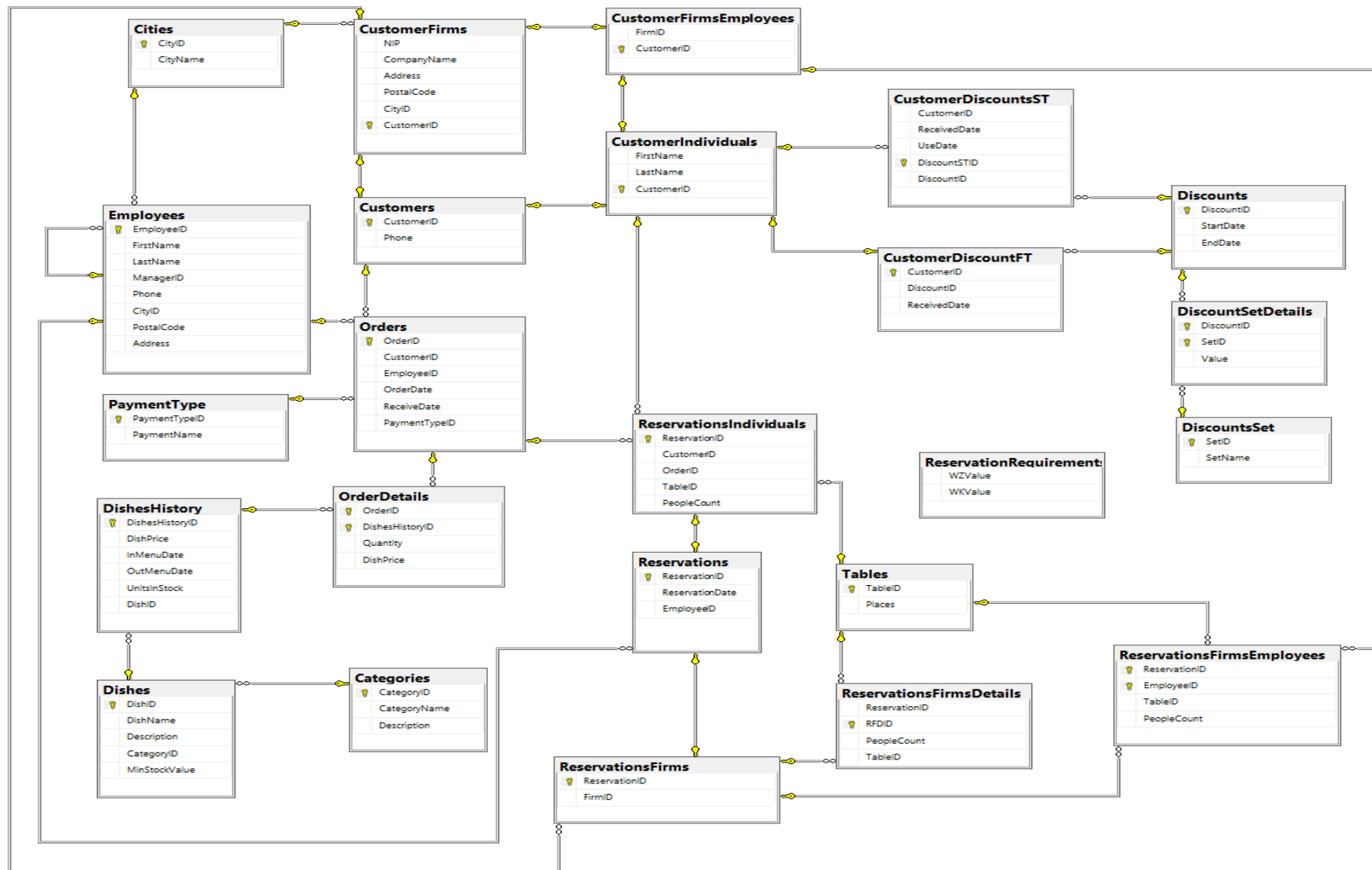
7. Generowanie faktur:

- Pracownik ma możliwość wystawienia faktury dla danego zamówienia lub faktury zbiorczej raz na miesiąc

8. Tworzenie backupu:

- System tworzy kopię zapasową bazy danych codziennie o 2:00

3. Schemat bazy danych



4. Opisy tabel oraz warunki integralności:

1. Tabela **Categories** – Kategorie dań

CategoryID – (klucz główny) – (int) – ID kategorii

CategoryName – (varchar50) – Nazwa kategorii

Description – (varchar500) – Opis kategorii

```
CREATE TABLE [Categories](
    [CategoryName] [varchar](50) NOT NULL,
    [Description] [varchar](500) NULL,
    [CategoryID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_Categories] PRIMARY KEY CLUSTERED
(
    [CategoryID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Warunki integralności:

- **[CategoryName]** unikalne

```
UNIQUE AK_CategoryName UNIQUE(CategoryName)
```

2. Tabela **Cities** – Słownik miast

CityID (klucz główny) – (**int**) - ID miasta

CityName – (**varchar50**) - Nazwa miasta

```
CREATE TABLE [Cities](
    [CityName] [varchar](50) NOT NULL,
    [CityID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_Cities] PRIMARY KEY CLUSTERED
(
    [CityID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Warunki integralności:

- **[CityName]** unikalne

```
UNIQUE AK_CityName UNIQUE(CityName)
```


3. Tabela **CustomerDiscountFT** – Przyznane zniżki pierwszego typu

CustomerID (klucz główny) – (int) – ID klienta indywidualnego

DiscountID (klucz obcy do **[DiscountID]** w **Discount**) – (int) – ID zniżki

ReceivedDate – (date) – Data przyznania zniżki

```
CREATE TABLE [CustomerDiscountFT](
    [CustomerID] [int] NOT NULL,
    [DiscountID] [int] NOT NULL,
    [ReceivedDate] [date] NOT NULL,
CONSTRAINT [PK_CustomerDiscountFT] PRIMARY KEY CLUSTERED
(
    [CustomerID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [CustomerDiscountFT] WITH CHECK ADD CONSTRAINT
[FK_CustomerDiscountFT_CustomerIndividuals]
FOREIGN KEY([CustomerID])
REFERENCES [CustomerIndividuals] ([CustomerID])
GO

ALTER TABLE [CustomerDiscountFT] WITH CHECK ADD CONSTRAINT
[FK_CustomerDiscountFT_Discounts] FOREIGN KEY([DiscountID])
REFERENCES [Discounts] ([DiscountID])
GO
```

Warunki integralności:

- Data przyznania zniżki **[ReceivedDate]** domyślnie **GETDATE()**

```
CONSTRAINT [DF_CustomerDiscountFT_ReceivedDate]
DEFAULT (GETDATE()) FOR [ReceivedDate]
```

4. Tabela **CustomerDiscountsST** – Przyznane zniżki drugiego typu

DiscountSTID (klucz główny) – (int) – ID zniżki drugiego typu

DiscountID (klucz obcy do **[DiscountID]** z **Discounts**) – (int) – ID zniżki

CustomerID (klucz obcy do **[CustomerID]** z **CustomerIndividuals**) – (int) – ID klienta indywidualnego

ReceivedDate – (date) – Data przyznania zniżki

UseDate – (date lub null) – Data wykorzystania zniżki

```
CREATE TABLE [CustomerDiscountsST](
    [CustomerID] [int] NOT NULL,
    [ReceivedDate] [date] NOT NULL,
    [UseDate] [date] NULL,
    [DiscountID] [int] NOT NULL,
    [DiscountSTID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_CustomerDiscountsST] PRIMARY KEY CLUSTERED
    (
        [DiscountSTID] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [CustomerDiscountsST] WITH CHECK ADD CONSTRAINT
[FK_CustomerDiscountsST_CustomerIndividuals]
FOREIGN KEY([CustomerID])
REFERENCES [CustomerIndividuals] ([CustomerID])
GO

ALTER TABLE [CustomerDiscountsST] WITH CHECK ADD CONSTRAINT
[FK_CustomerDiscountsST_Discounts] FOREIGN KEY([DiscountID])
REFERENCES [Discounts] ([DiscountID])
GO
```

Warunki integralności:

- Data wykorzystania zniżki **[UseDate]** nie może być wcześniejsza od daty otrzymania zniżki **[ReceivedDate]**

```
CONSTRAINT [CK_UseDate] CHECK (([UseDate] >= [ReceivedDate]))
```

- Data przyznania zniżki **[ReceivedDate]** domyślnie **GETDATE()**

```
CONSTRAINT [DF_CustomerDiscountST_ReceivedDate] DEFAULT  
(GETDATE()) FOR [ReceivedDate]
```

- Data wykorzystania zniżki **[UseDate]** domyślnie **null**

```
CONSTRAINT [DF_CustomerDiscountST_UseDate] DEFAULT (NULL) FOR  
[UseDate]
```

5. Tabela **CustomersFirms** – Firmy zarejestrowane jako klient

CustomerID (klucz główny) – (int) – ID klienta (firmy)

CityID (klucz obcy do **[CityID]** z **Cities**) – (int) – ID miasta, w którym firma jest zarejestrowana

NIP – (nchar10) – Numer NIP

CompanyName – (varchar50) – Nazwa firmy

Address – (varchar50) – Adres firmy

PostalCode – (varchar50) – Kod pocztowy

```
CREATE TABLE [CustomerFirms](
    [NIP] [nchar](10) NOT NULL,
    [CompanyName] [varchar](50) NOT NULL,
    [Address] [varchar](50) NOT NULL,
    [PostalCode] [varchar](50) NOT NULL,
    [CityID] [int] NOT NULL,
    [CustomerID] [int] NOT NULL,
    CONSTRAINT [PK_CustomerFirms] PRIMARY KEY CLUSTERED
(
    [CustomerID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [CustomerFirms] WITH CHECK ADD CONSTRAINT
[FK_CustomerFirms_Cities] FOREIGN KEY([CityID])
REFERENCES [Cities] ([CityID])
GO

ALTER TABLE [CustomerFirms] WITH CHECK ADD CONSTRAINT
[FK_CustomerFirms_Customers] FOREIGN KEY([CustomerID])
REFERENCES [Customers] ([CustomerID])
GO

ALTER TABLE [CustomerFirmsEmployees] WITH CHECK ADD CONSTRAINT
[FK_CustomerFirmsEmployees_CustomerFirms] FOREIGN KEY([FirmID])
REFERENCES [CustomerFirms] ([CustomerID])
GO
```

```
ALTER TABLE [CustomerFirmsEmployees] WITH CHECK ADD CONSTRAINT  
[FK_CustomerFirmsEmployees_CustomerIndividuals]  
FOREIGN KEY([CustomerID])  
REFERENCES [CustomerIndividuals] ([CustomerID])  
GO
```

Warunki integralności:

- **[NIP]** unikalne

```
UNIQUE AK_NIP UNIQUE(NIP)
```

- **[NIP]** składa się z cyfr

```
CONSTRAINT [CKNIP] CHECK (ISNUMERIC([NIP]) = 1)
```

- **[CompanyName]** unikalne

```
UNIQUE AK_CompanyName UNIQUE(CompanyName)
```

6. Tabela **CustomersFirmsEmployees** – Przypisanie klienta do firmy

CustomerID (klucz główny) – (int) – ID klienta indywidualnego

FirmID (klucz obcy do **[CustomerID]** z **CustomerFirms**) – (int) – ID firmy, w której pracuje

```
CREATE TABLE [CustomerFirmsEmployees](
    [FirmID] [int] NOT NULL,
    [CustomerID] [int] NOT NULL,
    CONSTRAINT [PK_CustomerFirmsEmployees] PRIMARY KEY CLUSTERED
    (
        [CustomerID] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [CustomerFirmsEmployees] WITH CHECK ADD CONSTRAINT
[FK_CustomerFirmsEmployees_CustomerFirms] FOREIGN KEY([FirmID])
REFERENCES [CustomerFirms] ([CustomerID])
GO

ALTER TABLE [CustomerFirmsEmployees] WITH CHECK ADD CONSTRAINT
[FK_CustomerFirmsEmployees_CustomerIndividuals]
FOREIGN KEY([CustomerID])
REFERENCES [CustomerIndividuals] ([CustomerID])
GO
```

7. Tabela **CustomersIndividuals** – Klient indywidualny

CustomerID (klucz główny) – (int) – ID klienta indywidualnego

FirstName – (varchar50) – Imię klienta

LastName – (varchar50) – Nazwisko klienta

```
CREATE TABLE [CustomerIndividuals](
    [FirstName] [varchar](50) NOT NULL,
    [LastName] [varchar](50) NOT NULL,
    [CustomerID] [int] NOT NULL,
    CONSTRAINT [PK_CustomerIndividuals] PRIMARY KEY CLUSTERED
(
    [CustomerID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [CustomerIndividuals] WITH CHECK ADD CONSTRAINT
[FK_CustomerIndividuals_Customers] FOREIGN KEY([CustomerID])
REFERENCES [Customers] ([CustomerID])
GO
```

8. Tabela **Customers** – Zbiorcza tabela klientów

CustomerID (klucz główny) – (int) – ID klienta

Phone – (nchar9) – Numer telefonu

```
CREATE TABLE [Customers](
    [Phone] [nchar](9) NOT NULL,
    [CustomerID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_Customers] PRIMARY KEY CLUSTERED
(
    [CustomerID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Warunki integralności:

- Numer telefonu [**Phone**] składa się z samych cyfr

```
CONSTRAINT [CKPhone] CHECK (ISNUMERIC([Phone]) = 1)
```

- Numer telefonu [**Phone**] jest unikalny

```
UNIQUE AK_Phone UNIQUE(Phone)
```


9. Tabela **Discounts** – Zniżki

DiscountID (klucz główny) – (int) – ID zniżki

StartDate – (date) – Data, od której obowiązuje zniżka

EndDate – (date lub null) – Data, do której obowiązuje zniżka

```
CREATE TABLE [Discounts](
    [StartDate] [date] NOT NULL,
    [EndDate] [date] NULL,
    [DiscountID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_Discounts] PRIMARY KEY CLUSTERED
(
    [DiscountID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Warunki integralności:

- Data, do której obowiązuje zniżka **[EndDate]** nie może być wcześniejsza od daty, od której obowiązuje zniżka **[StartDate]**

```
CONSTRAINT [CK_EndDate] CHECK (([EndDate] > [StartDate]))
```

- Data, od której obowiązuje zniżka **[StartDate]** domyślnie **GETDATE()**

```
CONSTRAINT [DF_Discounts_StartDate] DEFAULT (GETDATE()) FOR
[StartDate]
```

- Data, do której obowiązuje zniżka **[EndDate]** domyślnie **null**

```
CONSTRAINT [DF_Discounts_EndDate] DEFAULT ((NULL)) FOR [EndDate]
```

10. Tabela **DiscountSetDetails** – Wysokości zniżek

DiscountID (klucz główny) – (int) – ID zniżki

SetID (klucz główny) – (int) – ID parametru

Value – (int) – Wysokość zniżki

```
CREATE TABLE [DiscountSetDetails](
    [DiscountID] [int] NOT NULL,
    [SetID] [int] NOT NULL,
    [Value] [int] NOT NULL,
    CONSTRAINT [PK_DiscountSetDetails] PRIMARY KEY CLUSTERED
(
    [DiscountID] ASC,
    [SetID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [DiscountSetDetails] WITH CHECK ADD CONSTRAINT
[FK_DiscountSetDetails_Discounts] FOREIGN KEY([DiscountID])
REFERENCES [Discounts] ([DiscountID])
GO

ALTER TABLE [DiscountSetDetails] WITH CHECK ADD CONSTRAINT
[FK_DiscountSetDetails_DiscountsSet] FOREIGN KEY([SetID])
REFERENCES [DiscountsSet] ([SetID])
GO
```

Warunki integralności:

- Wysokość zniżki **[Value]** domyślnie **0**

```
CONSTRAINT [DF_DiscountSetDetails_Value] DEFAULT ((0)) FOR [Value]
```

11. Tabela **DiscountsSet** – Parametry zniżek

SetID (klucz główny) – (**int**) – ID parametru

SetName – (**varchar50**) – Nazwa parametru

```
CREATE TABLE [DiscountsSet](
    [SetName] [varchar](50) NOT NULL,
    [SetID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_DiscountsSet] PRIMARY KEY CLUSTERED
    (
        [SetID] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Warunki integralności:

- Nazwa parametru [**SetName**] jest unikalna

```
UNIQUE AK_SetName UNIQUE(SetName)
```

12. Tabela **Dishes** – Opis dania

DishID (klucz główny) – (int) – ID dania

CategoryID (klucz obcy do [**CategoryID**] z **Categories**) – (int) – ID kategorii

DishName – (varchar50) – Nazwa dania

MinStockValue – (int) – Minimalna ilość dania w magazynie aby móc je włączyć do menu

Description – (varchar500 lub null) – Opis dania

StartUnits – (int) – Startowa ilość dania po włączeniu do menu

BasicDishPrice – (decimal(10, 2)) – Startowa cena dania po włączeniu do menu

```
CREATE TABLE [Dishes](
    [DishName] [varchar](50) NOT NULL,
    [Description] [varchar](500) NULL,
    [CategoryID] [int] NOT NULL,
    [MinStockValue] [int] NULL,
    [DishID] [int] IDENTITY(1,1) NOT NULL,
    [StartUnits] [int] NOT NULL,
    [BasicDishPrice] [decimal](10, 2) NOT NULL,
    CONSTRAINT [PK_Dishes] PRIMARY KEY CLUSTERED
(
    [DishID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [Dishes] WITH CHECK ADD CONSTRAINT
[FK_Dishes_Categories] FOREIGN KEY([CategoryID])
REFERENCES [Categories] ([CategoryID])
GO
```

Warunki integralności:

- Minimalna ilość dania w magazynie aby móc je włączyć do menu **[MinStockValue]** musi być większa od 0

```
CONSTRAINT [CK_Dishes] CHECK (([MinStockValue] > 0))
```

- Startowa ilość dań po dodaniu do menu (**StartUnits**) domyślnie 30

```
CONSTRAINT [DF_Dishes_StartUnits] DEFAULT (30) FOR [StartUnits]
```

- Startowa cena dania po dodaniu do menu (**BasicDishPrice**) domyślnie 0

```
CONSTRAINT [DF_Dishes_BasicDishPrice] DEFAULT (0) FOR  
[BasicDishPrice]
```

13. Tabela **DishesHistory** – Historia dań z menu

DishesHistoryID (klucz główny) – (int) – ID zapisu dania z menu

DishID (klucz obcy do **[DishID]** z **Dishes**) – (int) – ID dania

DishPrice – (decimal(10, 2)) – Cena dania

InMenuDate – (date lub null) – Data włączenia dania do menu

OutMenuDate – (date) – Data usunięcia dania z menu

UnitsInStock – (int) – Ilość dania w magazynie

```
CREATE TABLE [DishesHistory](
    [DishPrice] [decimal](10, 2) NOT NULL,
    [InMenuDate] [date] NOT NULL,
    [OutMenuDate] [date] NULL,
    [UnitsInStock] [int] NOT NULL,
    [DishID] [int] NOT NULL,
    [DishesHistoryID] [int] IDENTITY(1,1) NOT NULL,
CONSTRAINT [PK_DishesHistory] PRIMARY KEY CLUSTERED
(
    [DishesHistoryID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [DishesHistory] WITH CHECK ADD CONSTRAINT
[FK_DishesHistory_Dishes] FOREIGN KEY([DishID])
REFERENCES [Dishes] ([DishID])
GO
```

Warunki integralności:

- Cena dania [**DishPrice**] musi być większa od 0

```
CONSTRAINT [CK_DishesHistory] CHECK (([DishPrice] > 0))
```

- Data usunięcia dania z menu [**OutMenuDate**] nie może być wcześniejsza od daty jego dołączenia [**InMenuDate**]

```
CONSTRAINT [CK_DishesHistory_1] CHECK (([OutMenuDate] IS NULL OR  
[OutMenuDate] > [InMenuDate]))
```

- Data włączenia dania do menu [**InMenuDate**] domyślnie **GETDATE()**

```
CONSTRAINT [DF_DishesHistory_InMenuDate] DEFAULT (GETDATE()) FOR  
[InMenuDate]
```

- Data usunięcia dania z menu [**OutMenuDate**] domyślnie **null**

```
CONSTRAINT [DF_DishesHistory_OutMenuDate] DEFAULT (NULL) FOR  
[OutMenuDate]
```

- Ilość dania w magazynie [**UnitsInStock**] nie może być mniejsza od 0

```
CONSTRAINT [CK_DishesHistory_2] CHECK (([UnitsInStock] >= 0))
```

14. Tabela **Employees** – Pracownicy restauracji

EmployeeID (klucz główny) – (int) – ID pracownika

CityID (klucz obcy do **[CityID]** z **Cities**) – (int) – ID miasta

ManagerID (klucz obcy do **[EmployeeID]** z **EmployeeID**) – (int lub null) – identyfikator menadżera

PostalCode – (varchar50) – kod pocztowy

FirstName – (varchar50) – imię

LastName – (varchar50) – nazwisko

Phone – (nchar9) – numer telefonu

Address – (varchar50) – adres

```
CREATE TABLE [Employees](
    [FirstName] [varchar](50) NOT NULL,
    [LastName] [varchar](50) NOT NULL,
    [ManagerID] [int] NULL,
    [Phone] [nchar](9) NOT NULL,
    [CityID] [int] NOT NULL,
    [PostalCode] [varchar](50) NOT NULL,
    [Address] [varchar](50) NOT NULL,
    [EmployeeID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_Employees] PRIMARY KEY CLUSTERED
    (
        [EmployeeID] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]

ALTER TABLE [Employees] WITH CHECK ADD CONSTRAINT
[FK_Employees_Cities] FOREIGN KEY([CityID])
REFERENCES [Cities] ([CityID])
GO

ALTER TABLE [Employees] WITH CHECK ADD CONSTRAINT
[FK_Employees_Employees] FOREIGN KEY([ManagerID])
REFERENCES [Employees] ([EmployeeID])
GO
```


Warunki integralności:

- Numer telefonu [**Phone**] składa się z samych cyfr

```
CONSTRAINT [CK_Employees] CHECK ((ISNUMERIC([phone])))
```

- Numer telefonu [**Phone**] jest unikalny

```
UNIQUE AK_Phone UNIQUE(Phone)
```

15. Tabela **OrderDetails** – Szczegóły zamówienia

OrderID (klucz główny) – (int) – ID zamówienia

DishesHistoryID (klucz główny) – (int) – ID zapisu dania z menu

Quantity – (int) – Zamówiona ilość dania

DishPrice – (money) – Cena dania

```
CREATE TABLE [OrderDetails](
    [OrderID] [int] NOT NULL,
    [DishesHistoryID] [int] NOT NULL,
    [Quantity] [int] NOT NULL,
    [DishPrice] [decimal](10, 2) NOT NULL,
CONSTRAINT [PK_Order Details] PRIMARY KEY CLUSTERED
(
    [OrderID] ASC,
    [DishesHistoryID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [OrderDetails] WITH CHECK ADD CONSTRAINT
[FK_OrderDetails_DishesHistory] FOREIGN KEY([DishesHistoryID])
REFERENCES [DishesHistory] ([DishesHistoryID])
GO

ALTER TABLE [OrderDetails] WITH CHECK ADD CONSTRAINT
[FK_OrderDetails_Orders] FOREIGN KEY([OrderID])
REFERENCES [Orders] ([OrderID])
GO
```

Warunki integralności:

- Zamówiona ilość dania [**Quantity**] musi być większa od 0

```
CONSTRAINT [CK_OrderDetails] CHECK (([Quantity] > 0))
```

- Cena dania [**DishPrice**] musi być większa od 0

```
CONSTRAINT [CK_OrderDetails_1] CHECK (([DishPrice] >= 0))
```

16. Tabela **Orders** – Zamówienia

OrderID (klucz główny) – (int) – ID zamówienia

CustomerID (klucz obcy do **[CustomerID]** w **Customers**) – (int) – ID klienta

EmployeeID (klucz obcy do **[EmployeeID]** w **Employees**) – (int) – ID pracownika

PaymentTypeID (klucz obcy do **[PaymentTypeID]** w **PaymentType**) – (int) – ID sposobu płatności

OrderDate – (date) – data złożenia zamówienia

ReceiveDate – (datetime) – data odbioru zamówienia

```
CREATE TABLE [Orders](
    [CustomerID] [int] NOT NULL,
    [EmployeeID] [int] NULL,
    [OrderDate] [date] NOT NULL,
    [ReceiveDate] [datetime] NOT NULL,
    [PaymentTypeID] [int] NOT NULL,
    [OrderID] [int] IDENTITY(1,1) NOT NULL,
CONSTRAINT [PK_Orders] PRIMARY KEY CLUSTERED
(
    [OrderID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [Orders] WITH CHECK ADD CONSTRAINT
[FK_Orders_Customers] FOREIGN KEY([CustomerID])
REFERENCES [Customers] ([CustomerID])
GO

ALTER TABLE [Orders] WITH CHECK ADD CONSTRAINT
[FK_Orders_Employees] FOREIGN KEY([EmployeeID])
REFERENCES [Employees] ([EmployeeID])
GO

ALTER TABLE [Orders] WITH CHECK ADD CONSTRAINT
[FK_Orders_PaymentType] FOREIGN KEY([PaymentTypeID])
REFERENCES [PaymentType] ([PaymentTypeID])
GO
```

Warunki integralności:

- Data odebrania nie może być wcześniejsza od daty złożenia zamówienia

```
CONSTRAINT [CK_Orders] CHECK (([ReceiveDate] >= [OrderDate]))
```

- Data złożenia zamówienia [**OrderDate**] domyślnie **GETDATE()**

```
CONSTRAINT [DF_Orders_OrderDate] DEFAULT (GETDATE()) FOR  
[OrderDate]
```

- Data odbioru zamówienia [**ReceiveDate**] domyślnie **GETDATE()**

```
CONSTRAINT [DF_Orders_ReceiveDate] DEFAULT (GETDATE()) FOR  
[ReceiveDate]
```

17. Tabela **PaymentType** – Sposób płatności

PaymentTypeID (klucz główny) – (int) – ID sposobu płatności

PaymentName – (varchar50) – Nazwa sposobu płatności

```
CREATE TABLE [PaymentType](
    [PaymentName] [varchar](50) NOT NULL,
    [PaymentTypeID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_PaymentType] PRIMARY KEY CLUSTERED
(
    [PaymentTypeID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Warunki integralności:

- **[PaymentName]** unikalne

```
UNIQUE AK_PaymentName UNIQUE(PaymentName)
```

18. Tabela **ReservationRequirements** – Wymagania dotyczące możliwości składania rezerwacji przez klientów indywidualnych

WZValue – (int) – Minimalna wartość zamówień

WKValue – (int) – Minimalna ilość zamówień

```
CREATE TABLE [ReservationRequirements](
    [WZValue] [int] NOT NULL,
    [WKValue] [int] NOT NULL
) ON [PRIMARY]
```

19. Tabela **Reservations** – Rezerwacje

ReservationID (klucz główny) – (int) – ID rezerwacji

ReservationDate – (date) – Data na którą została złożona rezerwacja

EmployeeID (klucz obcy do **[EmployeeID]** w **Employees**) – (int lub null) –ID pracownika, który zaakceptował rezerwację (pojawia się po jej zaakceptowaniu)

```
CREATE TABLE [Reservations](
    [ReservationDate] [date] NOT NULL,
    [EmployeeID] [int] NULL,
    [ReservationID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_Reservations] PRIMARY KEY CLUSTERED
(
    [ReservationID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [Reservations] WITH CHECK ADD CONSTRAINT
[FK_Reservations_Employees] FOREIGN KEY([EmployeeID])
REFERENCES [Employees] ([EmployeeID])
GO
```

Warunki integralności:

- ID pracownika **[EmployeeID]** domyślnie null

```
CONSTRAINT [DF_Reservations_EmployeeID] DEFAULT (NULL) FOR
[EmployeeID]
```

- Data rezerwacji **[ReservationDate]** nie może być wcześniejsza niż obecna (w momencie umieszczania rekordu w bazie)

```
CONSTRAINT [CK_Reservations] CHECK (([ReservationDate] >
GETDATE()))
```

20. Tabela **ReservationsFirms** – Rezerwacje złożone przez firmy

ReservationID (klucz główny) – (int) – ID rezerwacji

FirmID (klucz obcy do **[CustomerID]** w **CustomerFirms**) – (int) – ID klienta firmowego, który złożył daną rezerwację

```
CREATE TABLE [ReservationsFirms](
    [ReservationID] [int] NOT NULL,
    [FirmID] [int] NOT NULL,
    CONSTRAINT [PK_ReservationFirms] PRIMARY KEY CLUSTERED
(
    [ReservationID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [ReservationsFirms] WITH CHECK ADD CONSTRAINT
[FK_ReservationsFirms_CustomerFirms] FOREIGN KEY([FirmID])
REFERENCES [CustomerFirms] ([CustomerID])
GO

ALTER TABLE [ReservationsFirms] WITH CHECK ADD CONSTRAINT
[FK_ReservationsFirms_Reservations] FOREIGN KEY([ReservationID])
REFERENCES [Reservations] ([ReservationID])
GO
```

21. Tabela **ReservationsFirmsDetails** – Rezerwacje nieimienne złożone przez firmy

ReservationID (klucz obcy do **[ReservationID]** w **ReservationsFirms**) – (int) – ID rezerwacji

RFDID (klucz główny) – (int) – Sztuczny klucz główny służący do rozróżniania „podrezerwacji” danej rezerwacji

PeopleCount – (int) – Ilość osób, dla których potrzebny jest pojedynczy stolik

TableID (klucz obcy do **[TableID]** w **Tables**) – (int lub null) – ID stolika przypisanego przez obsługę (pojawia się po zaakceptowaniu rezerwacji)

```
CREATE TABLE [ReservationsFirmsDetails](
    [ReservationID] [int] NOT NULL,
    [PeopleCount] [int] NOT NULL,
    [TableID] [int] NULL,
    [RFDID] [int] IDENTITY(1,1) NOT NULL,
    CONSTRAINT [PK_ReservationsFirmsDetails] PRIMARY KEY CLUSTERED
    (
        [RFDID] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [ReservationsFirmsDetails] WITH CHECK ADD CONSTRAINT
[FK_ReservationsFirmsDetails_ReservationsFirms]
FOREIGN KEY([ReservationID])
REFERENCES [ReservationsFirms] ([ReservationID])
GO

ALTER TABLE [ReservationsFirmsDetails] WITH CHECK ADD CONSTRAINT
[FK_ReservationsFirmsDetails_Tables] FOREIGN KEY([TableID])
REFERENCES [Tables] ([TableID])
GO
```


Warunki integralności:

- ID stolika **[TableID]** domyślnie null

```
CONSTRAINT [DF_ReservationsFirmsDetails_TableID] DEFAULT (NULL)  
FOR [TableID]
```

- Ilość osób **[PeopleCount]** nie może być mniejsza niż 2

```
CONSTRAINT [CK_ReservationsFirmsDetails] CHECK (([PeopleCount] >=  
2))
```

22. Tabela **ReservationsFirmsEmployees** – Rezerwacje imienne złożone przez firmy

ReservationID (klucz główny) – (int) – ID rezerwacji

EmployeeID (klucz główny) – (int) – ID klienta będącego pracownikiem klienta firmowego

TableID (klucz obcy do **[TableID]** w **Tables**) – (int lub null) – ID stolika przypisanego przez obsługę (pojawia się po zaakceptowaniu rezerwacji)

PeopleCount – (int) – Ilość osób, dla których potrzebny jest pojedynczy stół

```
CREATE TABLE [ReservationsFirmsEmployees](
    [ReservationID] [int] NOT NULL,
    [EmployeeID] [int] NOT NULL,
    [TableID] [int] NULL,
    [PeopleCount] [int] NOT NULL,
    CONSTRAINT [PK_ReservationsFirmsEmployees_1] PRIMARY KEY CLUSTERED
    (
        [ReservationID] ASC,
        [EmployeeID] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

```
ALTER TABLE [ReservationsFirmsEmployees] WITH CHECK ADD
CONSTRAINT [FK_ReservationsFirmsEmployees_CustomerFirmsEmployees]
FOREIGN KEY([EmployeeID])
REFERENCES [CustomerFirmsEmployees] ([CustomerID])
GO
```

```
ALTER TABLE [ReservationsFirmsEmployees] WITH CHECK ADD
CONSTRAINT [FK_ReservationsFirmsEmployees_ReservationsFirms]
FOREIGN KEY([ReservationID])
REFERENCES [ReservationsFirms] ([ReservationID])
GO
```

```
ALTER TABLE [ReservationsFirmsEmployees] WITH CHECK ADD
CONSTRAINT [FK_ReservationsFirmsEmployees_Tables] FOREIGN
KEY([TableID])
REFERENCES [Tables] ([TableID])
GO
```

Warunki integralności:

- ID stolika **[TableID]** domyślnie null

```
CONSTRAINT [DF_ReservationsFirmsEmployees_TableID] DEFAULT (NULL)  
FOR [TableID]
```

- Ilość osób **[PeopleCount]** nie może być mniejsza niż 2

```
CONSTRAINT [CK_ReservationsFirmsEmployees] CHECK (([PeopleCount]  
>= 2))
```

23. Tabela **ReservationsIndividuals** – Rezerwacje klientów indywidualnych

ReservationID (klucz główny) – (int) – ID rezerwacji

CustomerID (klucz obcy do **[CustomerID]** w **CustomerIndividuals**) – (int) – ID klienta indywidualnego składającego zamówienia

OrderID (klucz obcy do **[OrderID]** w **Orders**) – (int) – ID zamówienia połączonego z rezerwacją

TableID (klucz obcy do **[TableID]** w **Tables**) – (int lub null) – ID stolika przypisanego przez obsługę (pojawia się po zaakceptowaniu rezerwacji)

PeopleCount – (int) – Ilość osób, dla których jest potrzebny stół

```
CREATE TABLE [ReservationsIndividuals](
    [ReservationID] [int] NOT NULL,
    [CustomerID] [int] NOT NULL,
    [OrderID] [int] NOT NULL,
    [TableID] [int] NULL,
    [PeopleCount] [int] NOT NULL,
    CONSTRAINT [PK_Reservations] PRIMARY KEY CLUSTERED
(
    [ReservationID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

ALTER TABLE [ReservationsIndividuals] WITH CHECK ADD CONSTRAINT
[FK_ReservationsIndividuals_CustomerIndividuals]
FOREIGN KEY([CustomerID])
REFERENCES [CustomerIndividuals] ([CustomerID])
GO

ALTER TABLE [ReservationsIndividuals] WITH CHECK ADD CONSTRAINT
[FK_ReservationsIndividuals_Orders] FOREIGN KEY([OrderID])
REFERENCES [Orders] ([OrderID])
GO

ALTER TABLE [ReservationsIndividuals] WITH CHECK ADD CONSTRAINT
[FK_ReservationsIndividuals_Reservations]
FOREIGN KEY([ReservationID])
REFERENCES [Reservations] ([ReservationID])
GO
```

```
ALTER TABLE [ReservationsIndividuals] WITH CHECK ADD CONSTRAINT  
[FK_ReservationsIndividuals_Tables] FOREIGN KEY([TableID])  
REFERENCES [Tables] ([TableID])  
GO
```

Warunki integralności:

- ID stolika **[TableID]** domyślnie null

```
CONSTRAINT [DF_ReservationsIndividuals_TableID] DEFAULT (NULL) FOR  
[TableID]
```

- Ilość osób **[PeopleCount]** nie może być mniejsza niż 2

```
CONSTRAINT [CK_ReservationsIndividuals] CHECK (([PeopleCount] >=  
2))
```

24. Tabela **Tables** – Stoliki

TableID (klucz główny) – (int) – ID stolika

Places – (int) – Ilość miejsc, jakie posiada dany stół

```
CREATE TABLE [Tables](  
    [Places] [int] NOT NULL,  
    [TableID] [int] IDENTITY(1,1) NOT NULL,  
    CONSTRAINT [PK_Tables] PRIMARY KEY CLUSTERED  
    (  
        [TableID] ASC  
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,  
    IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON,  
    OPTIMIZE_FOR_SEQUENTIAL_KEY = OFF) ON [PRIMARY]  
    ) ON [PRIMARY]
```

Warunki integralności:

- Ilość miejsc **[Places]** nie może być mniejsza niż 2

```
CONSTRAINT [CK_Tables] CHECK (([Places] >= (2)))
```

5. Widoki

1. **CurrentDiscounts** – obecnie obowiązujące parametry zniżek

```
CREATE VIEW [CurrentDiscounts] AS
SELECT D.[DiscountID], DS.[SetName], DSD.[Value]
FROM [Discounts] AS D
INNER JOIN [DiscountSetDetails] AS DSD
ON D.[DiscountID] = DSD.[DiscountID]
INNER JOIN [DiscountsSet] AS DS ON DSD.[SetID] = DS.[SetID]
WHERE D.[EndDate] IS NULL
```

2. **CustomerDiscountFirstType** – klienci, którzy zdobyli zniżkę pierwszego typu wraz z jej wartością i datą otrzymania

```
CREATE VIEW [CustomerDiscountFirstType] AS
SELECT CI.[CustomerID] ,CI.[FirstName] + ' ' + CI.[LastName]
AS 'Name', CDFT.[ReceivedDate], DS.[SetName], DSD.[Value]
FROM [CustomerIndividuals] AS CI
INNER JOIN [CustomerDiscountFT] AS CDFT
ON CI.[CustomerID] = CDFT.[CustomerID]
INNER JOIN [Discounts] AS D ON CDFT.[DiscountID] = D.[DiscountID]
INNER JOIN [DiscountSetDetails] AS DSD
ON D.[DiscountID] = DSD.[DiscountID]
INNER JOIN [DiscountsSet] AS DS ON DSD.[SetID] = DS.[SetID]
```

3. **CustomerDiscountsSecondType** – klienci, którzy mogą skorzystać ze zniżki drugiego typu wraz z jej wartością i datą uzyskania

```
CREATE VIEW [CustomerDiscountsSecondType] AS
SELECT CI.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName]
AS 'Name', CDST.[ReceivedDate], CDST.[UseDate], DS.[SetName],
DSD.[Value]
FROM [CustomerIndividuals] AS CI
INNER JOIN [CustomerDiscountsST] AS CDST
ON CI.[CustomerID] = CDST.[CustomerID]
INNER JOIN [Discounts] AS D ON CDST.[DiscountID] = D.[DiscountID]
INNER JOIN [DiscountSetDetails] AS DSD
ON D.[DiscountID] = DSD.[DiscountID]
INNER JOIN [DiscountsSet] AS DS ON DSD.[SetID] = DS.[SetID]
```

4. **DiscountsFTMonthly** – ilość przyznanych zniżek pierwszego typu w każdym miesiącu

```
CREATE VIEW [DiscountsFTMonthly] AS
SELECT YEAR(ReceivedDate) AS 'Year', MONTH(ReceivedDate) AS
'Month', COUNT(*) AS 'Discounts Count' FROM CustomerDiscountFT
GROUP BY MONTH(ReceivedDate), YEAR(ReceivedDate)
```

5. **DiscountsFTWeekly** – ilość przyznanych zniżek pierwszego typu w każdym tygodniu

```
CREATE VIEW [DiscountsFTWeekly] AS
SELECT YEAR(ReceivedDate) AS 'Year', DATEPART(WEEK, ReceivedDate)
AS 'Week', COUNT(*) AS 'Discounts Count' FROM CustomerDiscountFT
GROUP BY DATEPART(WEEK, ReceivedDate), YEAR(ReceivedDate)
```

6. **DiscountsSTMonthly** – Ilość przyznanych zniżek drugiego typu w każdym miesiącu

```
CREATE VIEW [DiscountsSTMonthly] AS
SELECT YEAR(ReceivedDate) AS 'Year', MONTH(ReceivedDate) AS
'Month', COUNT(*) AS 'Discounts Count' FROM CustomerDiscountsST
GROUP BY MONTH(ReceivedDate), YEAR(ReceivedDate)
```

7. **DiscountsSTWeekly** – Ilość przyznanych zniżek drugiego typu w każdym tygodniu

```
CREATE VIEW [DiscountsSTWeekly] AS
SELECT YEAR(ReceivedDate) AS 'Year', DATEPART(WEEK, ReceivedDate)
AS 'Week', COUNT(*) AS 'Discounts Count' FROM CustomerDiscountsST
GROUP BY DATEPART(WEEK, ReceivedDate), YEAR(ReceivedDate)
```

8. **DiscountsThisMonth** – Wszystkie zmiany w zniżkach wprowadzone w bieżącym miesiącu

```
CREATE VIEW [DiscountsThisMonth] AS
SELECT D.[DiscountID], D.[StartDate], D.[EndDate], DS.[SetName],
DSD.[Value]
FROM [Discounts] AS D
INNER JOIN [DiscountSetDetails] AS DSD
ON D.[DiscountID] = DSD.[DiscountID]
INNER JOIN [DiscountsSet] AS DS ON DSD.[SetID] = DS.[SetID]
WHERE DATEDIFF(MONTH, GETDATE(), D.[StartDate]) = 0
```


9. **DiscountsThisWeek** – Wszystkie zmiany w zniżkach wprowadzone w bieżącym tygodniu

```
CREATE VIEW [DiscountsThisWeek] AS
SELECT D.[DiscountID], D.[StartDate], D.[EndDate], DS.[SetName],
DSD.[Value]
FROM [Discounts] AS D
INNER JOIN [DiscountSetDetails] AS DSD
ON D.[DiscountID] = DSD.[DiscountID]
INNER JOIN [DiscountsSet] AS DS ON DSD.[SetID] = DS.[SetID]
WHERE DATEDIFF(WEEK, GETDATE(), D.[StartDate]) = 0
```

10. **DishesCategories** – wszystkie dania wraz z kategoriami

```
CREATE VIEW [DishesCategories] AS
SELECT D.[DishName], C.[CategoryName], C.[Description]
FROM [Dishes] AS D
INNER JOIN [Categories] AS C ON D.[CategoryID] = C.[CategoryID]
```

11. **DishesHistoryPrices** – Wszystkie dania wraz z historią ich cen i występowania w menu

```
CREATE VIEW [DishesHistoryPrices] AS
SELECT TOP(100) PERCENT D.[DishName], DH.[DishPrice],
DH.[InMenuDate], DH.[OutMenuDate]
FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
ORDER BY D.[DishID], DH.[DishPrice] DESC
```

12. **DishesToOrder** – dania, których jest za mało i muszą zostać usunięte z menu

```
CREATE VIEW [DishesToOrder] AS
SELECT D.[DishName], D.[Description], DH.[DishPrice]
FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
WHERE [D.MinStockValue] > DH.[UnitsInStock]
AND DH.[OutMenuDate] IS NULL
```

13. **DishIncome** – Dania w kolejności wygenerowanego przychodu

```
CREATE VIEW [DishIncome] AS
SELECT TOP(100) PERCENT D.[DishID], D.[DishName],
ISNULL(SUM(OD.[Quantity] * OD.[DishPrice]), 0) AS 'Income'
FROM [OrderDetails] AS OD
INNER JOIN [DishesHistory] AS DH
ON OD.[DishesHistoryID] = DH.[DishesHistoryID]
RIGHT OUTER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
GROUP BY OD.[DishesHistoryID], D.[DishID], D.[DishName]
ORDER BY 3 DESC
```

14. **DishPopularity** – Dania w kolejności ilości zamówień

```
CREATE VIEW [DishPopularity] AS
SELECT TOP(100) PERCENT D.[DishID], D.[DishName],
ISNULL(SUM([OD.Quantity]), 0) AS 'Quantity'
FROM [OrderDetails] AS OD
INNER JOIN [DishesHistory] AS DH
ON OD.[DishesHistoryID] = DH.[DishesHistoryID]
RIGHT OUTER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
GROUP BY OD.[DishesHistoryID], D.[DishID], D.[DishName]
ORDER BY 3 DESC
```

15. **FirmsEmployees** – pracownicy klientów firmowych

```
CREATE VIEW [FirmsEmployees] AS
SELECT C.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName] AS
'Name', CF.[CustomerID], CF.[CompanyName] FROM [Customers] AS C
INNER JOIN [CustomerIndividuals] AS CI
ON C.[CustomerID] = CI.[CustomerID]
INNER JOIN [CustomerFirmsEmployees] AS CFE
ON CI.[CustomerID] = CFE.[CustomerID]
INNER JOIN [CustomerFirms] AS CF ON CFE.[FirmID] = CF.[CustomerID]
```

16. **FirmsReservationsCount** – Klienci firmowi wraz z ilością dokonanych rezerwacji

```
CREATE VIEW [FirmsReservationsCount] AS
SELECT CF.[CustomerID], CF.[CompanyName],
ISNULL(COUNT(RF.[ReservationID]), 0) AS 'Count'
FROM [ReservationsFirms] AS RF
RIGHT OUTER JOIN [CustomerFirms] AS CF
ON RF.[FirmID] = CF.[CustomerID]
GROUP BY CF.[CustomerID], CF.[CompanyName]
```

17. FreeTablesForToday – Wszystkie pozostałe wolne stoliki na dzisiaj

```
CREATE VIEW [FreeTablesForToday] AS
SELECT T.[TableID], T.[Places] FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsEmployees] AS RFE
ON RF.[ReservationID] = RFE.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFE.[TableID] = T.[TableID]
AND DATEDIFF(DAY, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NULL
INTERSECT
SELECT T.[TableID], T.[Places] FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsDetails] AS RFD
ON RF.[ReservationID] = RFD.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFD.[TableID] = T.[TableID]
AND DATEDIFF(DAY, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NULL
INTERSECT
SELECT T.[TableID], T.[Places] FROM [Reservations] AS R
INNER JOIN [ReservationsIndividuals] AS RI
ON R.[ReservationID] = RI.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RI.[TableID] = T.[TableID]
AND DATEDIFF(DAY, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NULL
```

18. **IncomePerCustomerFirmThisMonth** – Łączny przychód wygenerowany z jednego klienta firmowego w bieżącym miesiącu

```
CREATE VIEW [IncomePerCustomerFirmThisMonth] AS
SELECT CF.[CustomerID], CF.[CompanyName], C.[Phone],
SUM(OD.[DishPrice] * OD.[Quantity]) AS 'Income' FROM
[CustomerFirms] AS CF
INNER JOIN [Customers] AS C ON CF.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(MONTH, GETDATE(), O.[OrderDate]) = 0
GROUP BY CF.[CustomerID], CF.[CompanyName], C.[Phone]
```

19. **IncomePerCustomerFirmThisWeek** – Łączny przychód wygenerowany z jednego klienta firmowego w bieżącym tygodniu

```
CREATE VIEW [IncomePerCustomerFirmThisWeek] AS
SELECT CF.[CustomerID], CF.[CompanyName], C.[Phone],
SUM(OD.[DishPrice] * OD.[Quantity]) AS 'Income' FROM
[CustomerFirms] AS CF
INNER JOIN [Customers] AS C ON CF.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(WEEK, GETDATE(), O.[OrderDate]) = 0
GROUP BY CF.[CustomerID], CF.[CompanyName], C.[Phone]
```

20. **IncomePerCustomerIndividualThisMonth** – łączny przychód wygenerowany z jednego klienta indywidualnego w bieżącym miesiącu

```
CREATE VIEW [IncomePerCustomerIndividualThisMonth] AS
SELECT CI.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName] AS
'Name', C.[Phone], SUM(OD.[DishPrice] * OD.[Quantity]) AS 'Income'
FROM [CustomerIndividuals] AS CI
INNER JOIN [Customers] AS C ON CI.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(MONTH, GETDATE(), O.[OrderDate]) = 0
GROUP BY CI.[CustomerID], CI.[FirstName], CI.[LastName], C.[Phone]
```

21. **IncomePerCustomerIndividualThisWeek** – łączny przychód wygenerowany z jednego klienta indywidualnego w bieżącym tygodniu

```
CREATE VIEW [IncomePerCustomerIndividualThisWeek] AS
SELECT CI.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName] AS
'Name', C.[Phone], SUM(OD.[DishPrice] * OD.[Quantity]) AS 'Income'
FROM [CustomerIndividuals] AS CI
INNER JOIN [Customers] AS C ON CI.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(WEEK, GETDATE(), O.[OrderDate]) = 0
GROUP BY CI.[CustomerID], CI.[FirstName], CI.[LastName], C.[Phone]
```

22. **IndividualsReservationsCount** – Klienci indywidualni wraz z ilością dokonanych rezerwacji

```
CREATE VIEW [IndividualsReservationsCount] AS
SELECT CI.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName]
AS 'Name', ISNULL(COUNT(RI.[ReservationID]), 0) AS 'Count'
FROM [ReservationsIndividuals] AS RI
RIGHT OUTER JOIN [CustomerIndividuals] AS CI
ON RI.[CustomerID] = CI.[CustomerID]
GROUP BY CI.[CustomerID], CI.[FirstName], CI.[LastName]
```

23. **Menu** – aktualne menu restauracji

```
CREATE VIEW [Menu] AS
SELECT D.[DishName], D.[Description], DH.[DishPrice]
FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
WHERE DH.[OutMenuDate] IS NULL
```

24. **MenuMonthly** – Dania występujące w menu wraz z ceną w każdym miesiącu

```
CREATE VIEW [MenuMonthly] AS
SELECT D.[DishName], D.[Description], DH.[DishPrice],
MONTH(DH.InMenuDate) AS 'Month', YEAR(DH.InMenuDate) AS 'Year'
FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
GROUP BY MONTH(DH.InMenuDate), YEAR(DH.InMenuDate), D.[DishName],
D.[Description], DH.[DishPrice]
```

25. MenuMonthlyCount – Dania występujące w menu wraz z ilością pojawień się w menu w każdym miesiącu

```
CREATE VIEW [MenuMonthlyCount] AS
SELECT D.[DishName], D.[Description], COUNT(*) AS 'CountDish',
MONTH(DH.InMenuDate) AS 'Month', YEAR(DH.InMenuDate) AS 'Year'
FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
GROUP BY MONTH(DH.InMenuDate), YEAR(DH.InMenuDate), D.[DishName],
D.[Description]
```

26. MenuWeekly – Dania występujące w menu wraz z ceną w każdym tygodniu

```
CREATE VIEW [MenuWeekly] AS
SELECT D.[DishName], D.[Description], DH.[DishPrice],
DATEPART(WEEK, DH.InMenuDate) AS 'Week',
YEAR(DH.InMenuDate) AS 'Year' FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
GROUP BY DATEPART(WEEK, DH.InMenuDate), YEAR(DH.InMenuDate),
D.[DishName], D.[Description], DH.[DishPrice]
```

27. MenuWeeklyCount – Dania występujące w menu wraz z ilością pojawień się w menu w każdym tygodniu

```
CREATE VIEW [MenuWeeklyCount] AS
SELECT D.[DishName], D.[Description], COUNT(*) AS 'CountDish',
DATEPART(WEEK, DH.InMenuDate) AS 'Week',
YEAR(DH.InMenuDate) AS 'Year' FROM [DishesHistory] AS DH
INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
GROUP BY DATEPART(WEEK, DH.InMenuDate), YEAR(DH.InMenuDate),
D.[DishName], D.[Description]
```


28. **OrdersPerCustomerFirmThisMonth** – Wszystkie zamówienia złożone przez klientów firmowych w bieżącym miesiącu

```
CREATE VIEW [OrdersPerCustomerFirmThisMonth] AS
SELECT CF.[CustomerID], CF.[CompanyName] , C.[Phone],
SUM(OD.[DishPrice] * OD.[Quantity])
AS 'Income', O.[OrderDate], O.[OrderID]
FROM [CustomerFirms] AS CF
INNER JOIN [Customers] AS C ON CF.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(MONTH, GETDATE(), O.[OrderDate]) = 0
GROUP BY CF.[CustomerID], CF.[CompanyName], C.[Phone]
```

29. **OrdersPerCustomerFirmThisWeek** – Wszystkie zamówienia złożone przez klientów firmowych w bieżącym tygodniu

```
CREATE VIEW [OrdersPerCustomerFirmThisWeek] AS
SELECT CF.[CustomerID], CF.[CompanyName] , C.[Phone],
SUM(OD.[DishPrice] * OD.[Quantity])
AS 'Income', O.[OrderDate], O.[OrderID]
FROM [CustomerFirms] AS CF
INNER JOIN [Customers] AS C ON CF.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(WEEK, GETDATE(), O.[OrderDate]) = 0
GROUP BY CF.[CustomerID], CF.[CompanyName], C.[Phone]
```

30. **OrdersPerCustomerIndividualThisMonth** – Wszystkie zamówienia złożone przez klientów indywidualnych w bieżącym miesiącu

```
CREATE VIEW [OrdersPerCustomerIndividualThisMonth] AS
SELECT CI.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName]
AS 'Name', C.[Phone], SUM(OD.[DishPrice] * OD.[Quantity])
AS 'Income', O.[OrderDate], O.[OrderID]
FROM [CustomerIndividuals] AS CI
INNER JOIN [Customers] AS C ON CI.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(MONTH, GETDATE(), O.[OrderDate]) = 0
GROUP BY CI.[CustomerID], CI.[FirstName], CI.[LastName],
C.[Phone], O.[OrderDate], O.[OrderID]
```

31. **OrdersPerCustomerIndividualThisWeek** – Wszystkie zamówienia złożone przez klientów indywidualnych w bieżącym tygodniu

```
CREATE VIEW [OrdersPerCustomerIndividualThisWeek] AS
SELECT CI.[CustomerID], CI.[FirstName] + ' ' + CI.[LastName]
AS 'Name', C.[Phone], SUM(OD.[DishPrice] * OD.[Quantity])
AS 'Income', O.[OrderDate], O.[OrderID]
FROM [CustomerIndividuals] AS CI
INNER JOIN [Customers] AS C ON CI.[CustomerID] = C.[CustomerID]
INNER JOIN [Orders] AS O ON C.[CustomerID] = O.[CustomerID]
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(WEEK, GETDATE(), O.[OrderDate]) = 0
GROUP BY CI.[CustomerID], CI.[FirstName], CI.[LastName],
C.[Phone], O.[OrderDate], O.[OrderID]
```

32. OrdersPerTimeOfDay – ilość zamówień według pory dnia

```
CREATE VIEW [OrdersPerTimeOfDay] AS
SELECT COUNT(*) AS 'Quantity', 'Morning' AS 'Time of day'
FROM [Orders]
WHERE DATEPART(HOUR, [ReceiveDate]) < 11
UNION
SELECT COUNT(*) AS 'Quantity', 'Midday' AS 'Time of day'
FROM [Orders]
WHERE 11 <= DATEPART(HOUR, [ReceiveDate])
AND DATEPART(HOUR, [ReceiveDate]) < 16
UNION
SELECT COUNT(*) AS 'Quantity', 'Afternoon' AS 'Time of day'
FROM [Orders]
WHERE 16 <= DATEPART(HOUR, [ReceiveDate])
AND DATEPART(HOUR, [ReceiveDate]) < 20
UNION
SELECT COUNT(*) AS 'Quantity', 'Evening' AS 'Time of day'
FROM [Orders]
WHERE 20 <= DATEPART(HOUR, [ReceiveDate])
```

33. OrdersPerTimeOfDayThisMonth – ilość zamówień według pory dnia w bieżącym miesiącu

```
CREATE VIEW [OrdersPerTimeOfDay] AS
SELECT COUNT(*) AS 'Quantity', 'Morning' AS 'Time of day'
FROM [Orders]
WHERE DATEPART(HOUR, [ReceiveDate]) < 11
AND DATEDIFF(MONTH, [ReceiveDate], GETDATE()) = 0
UNION
SELECT COUNT(*) AS 'Quantity', 'Midday' AS 'Time of day'
FROM [Orders]
WHERE 11 <= DATEPART(HOUR, [ReceiveDate])
AND DATEPART(HOUR, [ReceiveDate]) < 16
AND DATEDIFF(MONTH, [ReceiveDate], GETDATE()) = 0
UNION
SELECT COUNT(*) AS 'Quantity', 'Afternoon' AS 'Time of day'
FROM [Orders]
WHERE 16 <= DATEPART(HOUR, [ReceiveDate])
AND DATEPART(HOUR, [ReceiveDate]) < 20
AND DATEDIFF(MONTH, [ReceiveDate], GETDATE()) = 0
UNION
SELECT COUNT(*) AS 'Quantity', 'Evening' AS 'Time of day'
FROM [Orders]
WHERE 20 <= DATEPART(HOUR, [ReceiveDate])
AND DATEDIFF(MONTH, [ReceiveDate], GETDATE()) = 0
```

34. **OrdersPerTimeOfDayThisWeek** – ilość zamówień według pory dnia w bieżącym tygodniu

```
CREATE VIEW [OrdersPerTimeOfDay] AS
SELECT COUNT(*) AS 'Quantity', 'Morning' AS 'Time of day'
FROM [Orders]
WHERE DATEPART(HOUR, [ReceiveDate]) < 11
AND DATEDIFF(WEEK, [ReceiveDate], GETDATE()) = 0
UNION
SELECT COUNT(*) AS 'Quantity', 'Midday' AS 'Time of day'
FROM [Orders]
WHERE 11 <= DATEPART(HOUR, [ReceiveDate])
AND DATEPART(HOUR, [ReceiveDate]) < 16
AND DATEDIFF(WEEK, [ReceiveDate], GETDATE()) = 0
UNION
SELECT COUNT(*) AS 'Quantity', 'Afternoon' AS 'Time of day'
FROM [Orders]
WHERE 16 <= DATEPART(HOUR, [ReceiveDate])
AND DATEPART(HOUR, [ReceiveDate]) < 20
AND DATEDIFF(WEEK, [ReceiveDate], GETDATE()) = 0
UNION
SELECT COUNT(*) AS 'Quantity', 'Evening' AS 'Time of day'
FROM [Orders]
WHERE 20 <= DATEPART(HOUR, [ReceiveDate])
AND DATEDIFF(WEEK, [ReceiveDate], GETDATE()) = 0
```

35. **OrdersPriceForToday** – Przychód z zamówień złożonych dzisiaj

```
CREATE VIEW [OrdersPriceForToday] AS
SELECT O.[OrderID], SUM(OD.[DishPrice] * OD.[Quantity]) AS 'Price'
FROM [Orders] AS O
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
WHERE DATEDIFF(DAY, O.[ReceiveDate], GETDATE()) = 0
GROUP BY O.[OrderID]
```

36. **OrdersToDo** – Wszystkie zamówienia, które nie zostały jeszcze zrealizowane

```
CREATE VIEW [OrdersToDo] AS
SELECT O.[OrderID], O.[CustomerID], O.[EmployeeID], O.[OrderDate],
O.[ReceiveDate], PT.[PaymentName] FROM [Orders] AS O
INNER JOIN [PaymentType] AS PT ON O.[PaymentTypeID] =
PT.[PaymentTypeID]
WHERE O.[ReceiveDate] > GETDATE()
```

37. **ReservedTablesMonthly** – Ilość zarezerwowanych stolików w każdym miesiącu

```
CREATE VIEW [ReservedTablesMonthly] AS
SELECT YEAR(R.ReservationDate) AS 'Year', MONTH(R.ReservationDate)
AS 'Month', COUNT(*) AS 'Reservations Count'
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsEmployees] AS RFE
ON RF.[ReservationID] = RFE.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFE.[TableID] = T.[TableID]
WHERE R.[ReservationID] IS NOT NULL
GROUP BY MONTH(R.ReservationDate), YEAR(R.ReservationDate)
UNION
SELECT YEAR(R.ReservationDate) AS 'Year', MONTH(R.ReservationDate)
AS 'Month', COUNT(*) AS 'Reservations Count'
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsDetails] AS RFD
ON RF.[ReservationID] = RFD.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFD.[TableID] = T.[TableID]
WHERE R.[ReservationID] IS NOT NULL
GROUP BY MONTH(R.ReservationDate), YEAR(R.ReservationDate)
UNION
SELECT YEAR(R.ReservationDate) AS 'Year', MONTH(R.ReservationDate)
AS 'Month', COUNT(*) AS 'Reservations Count'
FROM [Reservations] AS R
INNER JOIN [ReservationsIndividuals] AS RI
ON R.[ReservationID] = RI.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RI.[TableID] = T.[TableID]
WHERE R.[ReservationID] IS NOT NULL
GROUP BY MONTH(R.ReservationDate), YEAR(R.ReservationDate)
```

38. **ReservedTablesThisMonth** – Wszystkie rezerwacje stolików dokonane w bieżącym miesiącu

```
CREATE VIEW [ReservedTablesThisMonth] AS
SELECT R.[ReservationID], R.[ReservationDate], T.[TableID]
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsEmployees] AS RFE
ON RF.[ReservationID] = RFE.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFE.[TableID] = T.[TableID]
AND DATEDIFF(MONTH, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NOT NULL
UNION
SELECT R.[ReservationID], R.[ReservationDate], T.[TableID]
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsDetails] AS RFD
ON RF.[ReservationID] = RFD.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFD.[TableID] = T.[TableID]
AND DATEDIFF(MONTH, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NOT NULL
UNION
SELECT R.[ReservationID], R.[ReservationDate], T.[TableID]
FROM [Reservations] AS R
INNER JOIN [ReservationsIndividuals] AS RFI
ON RF.[ReservationID] = RFI.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFI.[TableID] = T.[TableID]
AND DATEDIFF(MONTH, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NOT NULL
```


39. **ReservedTablesThisWeek** – Wszystkie rezerwacje stolików dokonane w bieżącym tygodniu

```
CREATE VIEW [ReservedTablesThisWeek] AS
SELECT R.[ReservationID], R.[ReservationDate], T.[TableID]
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsEmployees] AS RFE
ON RF.[ReservationID] = RFE.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFE.[TableID] = T.[TableID]
AND DATEDIFF(WEEK, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NOT NULL
UNION
SELECT R.[ReservationID], R.[ReservationDate], T.[TableID]
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsDetails] AS RFD
ON RF.[ReservationID] = RFD.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFD.[TableID] = T.[TableID]
AND DATEDIFF(WEEK, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NOT NULL
UNION
SELECT R.[ReservationID], R.[ReservationDate], T.[TableID]
FROM [Reservations] AS R
INNER JOIN [ReservationsIndividuals] AS RFI
ON RF.[ReservationID] = RFI.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFI.[TableID] = T.[TableID]
AND DATEDIFF(WEEK, GETDATE(), R.[ReservationDate]) = 0
WHERE R.[ReservationID] IS NOT NULL
```

40. **ReservedTablesWeekly** – ilość zarezerwowanych stolików w każdym tygodniu

```
CREATE VIEW [ReservedTablesWeekly] AS
SELECT YEAR(R.ReservationDate) AS 'Year',
DATEPART(WEEK, R.ReservationDate) AS 'Week', COUNT(*) AS
'Reservations Count' FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsEmployees] AS RFE
ON RF.[ReservationID] = RFE.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFE.[TableID] = T.[TableID]
WHERE R.[ReservationID] IS NOT NULL
GROUP BY DATEPART(WEEK, R.ReservationDate),
YEAR(R.ReservationDate)
UNION
SELECT YEAR(R.ReservationDate) AS 'Year',
DATEPART(WEEK, R.ReservationDate) AS 'Week', COUNT(*) AS
'Reservations Count' FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [ReservationsFirmsDetails] AS RFD
ON RF.[ReservationID] = RFD.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RFD.[TableID] = T.[TableID]
WHERE R.[ReservationID] IS NOT NULL
GROUP BY DATEPART(WEEK, R.ReservationDate),
YEAR(R.ReservationDate)
UNION
SELECT YEAR(R.ReservationDate) AS 'Year',
DATEPART(WEEK, R.ReservationDate) AS 'Week', COUNT(*) AS
'Reservations Count' FROM [Reservations] AS R
INNER JOIN [ReservationsIndividuals] AS RI
ON R.[ReservationID] = RI.[ReservationID]
RIGHT OUTER JOIN [Tables] AS T
ON RI.[TableID] = T.[TableID]
WHERE R.[ReservationID] IS NOT NULL
GROUP BY DATEPART(WEEK, R.ReservationDate),
YEAR(R.ReservationDate)
```

41. **ReservationsThisMonth** – Wszystkie rezerwacje dokonane w bieżącym miesiącu

```
CREATE VIEW [ReservationsThisMonth] AS
SELECT * FROM [Reservations] AS R
WHERE DATEDIFF(MONTH, R.[ReservationDate], GETDATE()) = 0
```

42. **ReservationsThisWeek** – Wszystkie rezerwacje dokonane w bieżącym tygodniu

```
CREATE VIEW [ReservationsThisWeek] AS
SELECT * FROM [Reservations] AS R
WHERE DATEDIFF(WEEK, R.[ReservationDate], GETDATE()) = 0
```

43. **ReservationsToAccept** – Rezerwacje oczekujące na akceptację przez pracownika

```
CREATE VIEW [ReservationsToAccept] AS
SELECT R.[ReservationID], R.[ReservationDate], CI.[FirstName] + ' ' + CI.[LastName] AS 'Customer name', CI.[CustomerID]
FROM [Reservations] AS R
INNER JOIN [ReservationsIndividuals] AS RI
ON R.[ReservationID] = RI.[ReservationID]
INNER JOIN [CustomerIndividuals] AS CI
ON RI.[CustomerID] = CI.[CustomerID]
WHERE R.[EmployeeID] IS NULL
UNION
SELECT R.[ReservationID], R.[ReservationDate], CF.[CompanyName] AS 'Customer Name', CF.[CustomerID]
FROM [Reservations] AS R
INNER JOIN [ReservationsFirms] AS RF
ON R.[ReservationID] = RF.[ReservationID]
INNER JOIN [CustomerFirms] AS CF
ON RF.[FirmID] = CF.[CustomerID]
WHERE R.[EmployeeID] IS NULL
```

44. **ReservationsForToday** – Rezerwacje na dzisiaj

```
CREATE VIEW [ReservationsForToday] AS
SELECT * FROM [Reservations] AS R
WHERE DATEDIFF(DAY, R.[ReservationDate], GETDATE()) = 0
```

45. **SeaFoodNeededForThisWeekend** – Dania z owocami morza, które należy przygotować na ten weekend

```
CREATE VIEW [SeaFoodNeededForThisWeekend] AS
SELECT D.[DishID], D.[DishName], SUM(OD.[Quantity]) AS 'Quantity'
FROM [Orders] AS O
INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
INNER JOIN [DishesHistory] AS DH
ON OD.DishesHistoryID = DH.DishesHistoryID
INNER JOIN [Dishes] AS D ON DH.DishID = D.DishID
INNER JOIN [Categories] AS Ca ON D.CategoryID = Ca.CategoryID
WHERE Ca.CategoryID = 2
AND DATEDIFF(WEEK, GETDATE(), O.[ReceiveDate]) = 0
GROUP BY D.[DishID], D.[DishName]
```

6. Procedury

1. **AddCategory** – dodaje nową kategorię dania

```
CREATE PROCEDURE [AddCategory]
    @CategoryName varchar(50),
    @Description varchar(500) = NULL
AS
BEGIN
    BEGIN TRY
        INSERT INTO [Categories]([CategoryName], [Description])
        VALUES (@Categoryname, @Description)
        DECLARE @CategoryID int
        SELECT @CategoryID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [Categories]
        WHERE [CategoryID] = @CategoryID

        DECLARE @errorMsg nvarchar(2048) = 'Cannot add new Category.
        Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

2. **AddCity**– dodaje nowe miasto

```
CREATE PROCEDURE [AddCity]
    @CityName varchar(50)
AS
BEGIN
    BEGIN TRY
        INSERT INTO [Cities]([CityName])
        VALUES (@CityName)
        DECLARE @CityID int
        SELECT @CityID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [Cities]
        WHERE [CityID] = @CityID
        DECLARE @errorMsg nvarchar(2048) = 'Cannot add new City. Error
        message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

3. AddDiscount – dodaje nową zniżkę

```
CREATE PROCEDURE [AddDiscount]
AS
BEGIN
    BEGIN TRY

        INSERT INTO [Discounts]([StartDate])
        VALUES (GETDATE())
        DECLARE @DiscountID int
        SELECT @DiscountID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [Discounts]
        WHERE [DiscountID] = @DiscountID
        DECLARE @errorMsg nvarchar(2048) = 'Cannot add new discount.
        Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

4. AddDish– dodaje nowe danie

```
CREATE PROCEDURE [AddDish]
    @DishName varchar(50),
    @Description varchar(500) = NULL,
    @CategoryName varchar(50),
    @MinStockValue int = NULL,
    @StartUnits int

AS
BEGIN
    BEGIN TRY
        IF NOT EXISTS
        (
            SELECT [CategoryID] FROM [Categories]
            WHERE [CategoryName] = @CategoryName
        )
        BEGIN
            ;THROW 52000, 'Category does not exist.', 1
        END

        IF (@StartUnits < @MinStockValue)
        BEGIN
            ;THROW 52000, 'Units on start has to be greater
            than minimal value', 1
        END

        DECLARE @CategoryID int
        SET @CategoryID = (
            SELECT [CategoryID] FROM [Categories]
            WHERE [CategoryName] = @CategoryName
        );

        INSERT INTO [Dishes]([DishName], [Description],
        [CategoryID], [MinStockValue])
        VALUES (@DishName, @Description, @CategoryID,
        @MinStockValue)
        DECLARE @DishID int
        SELECT @DishID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [Dishes]
        WHERE [DishID] = @DishID
    END CATCH
END
```



```
DECLARE @errorMsg nvarchar(2048) = 'Cannot add new Dish. Error
message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO
```

5. AddDishToMenu – dodaje danie do aktualnego menu

```
CREATE PROCEDURE [AddDishToMenu]
    @DishName varchar(50),
    @DishPrice int,
    @UnitsInStock int
AS
BEGIN
    BEGIN TRY
        DECLARE @DishID int;
        IF NOT EXISTS
        (
            SELECT [DishID] FROM [Dishes]
            WHERE [DishName] = @DishName
        )
        BEGIN
            ;THROW 52000, 'Dish does not exist.', 1
        END

        SET @DishID = (
            SELECT [DishID] FROM [Dishes]
            WHERE [DishName] = @DishName
        );

        IF EXISTS
        (
            SELECT [DishID] FROM [DishesHistory]
            WHERE [DishID] = @DishID AND [OutMenuDate] IS NULL
        )
        BEGIN
            ;THROW 52000, 'Dish is already in menu.', 1
        END

        IF NOT EXISTS
        (
            SELECT [DishID] FROM [Dishes] WHERE [DishName] =
            @DishName AND @UnitsInStock >= [MinStockValue]
        )
        BEGIN
            ;THROW 52000, 'There is not enough portions of this
            dish in stock.', 1
        END
    END TRY
    BEGIN CATCH
        -- Error handling logic
    END CATCH
END
```

```
INSERT INTO [DishesHistory]([DishPrice], [InMenuDate],
[OutMenuDate], [UnitsInStock], [DishID])
VALUES (@DishPrice, GETDATE(), NULL, @UnitsInStock, @DishID)
DECLARE @DishesHistoryID int
SELECT @DishesHistoryID = SCOPE_IDENTITY()
END TRY
BEGIN CATCH
DELETE FROM [DishesHistory]
WHERE [DishesHistoryID] = @DishesHistoryID
DECLARE @errorMsg nvarchar(2048) = 'Cannot add new dish to
Menu. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO
```

6. AddDishToOrder – dodaje danie do zamówienia

```
CREATE PROCEDURE [AddDishToOrder]
    @OrderID int,
    @DishesHistoryID int,
    @Quantity int,
    @CustomerID int
AS
BEGIN
    BEGIN TRY
        DECLARE @Discount int;
        DECLARE @BasicDishPrice decimal(10, 2);
        DECLARE @UnitsInStock int;
        DECLARE @DiscountIDFT int = NULL;
        DECLARE @DiscountIDST int = NULL;

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [Customers] WHERE
[CustomerID] = @CustomerID)
        )
        BEGIN
            ;THROW 52000, 'Customer does not exist.', 1
        END

        IF NOT EXISTS
        (
            SELECT [UnitsInStock] FROM [DishesHistory]
            WHERE [DishesHistoryID] = @DishesHistoryID
            AND [OutMenuDate] IS NULL
        )
        BEGIN
            ;THROW 52000, 'Dish does not exist in menu.', 1
        END

        IF NOT EXISTS
        (
            (SELECT [OrderID] FROM [Orders]
            WHERE [OrderID] = @OrderID)
        )
        BEGIN
```

```

        ;THROW 52000, 'Order does not exist.', 1
    END

    SET @UnitsInStock = (
        SELECT [UnitsInStock] FROM [DishesHistory]
        WHERE [DishesHistoryID] = @DishesHistoryID
        AND [OutMenuDate] IS NULL
    );

    SET @BasicDishPrice=
    (
        SELECT [DishPrice] FROM [DishesHistory]
        WHERE [DishesHistoryID] = @DishesHistoryID
        AND OutMenuDate IS NULL
    )
    IF
    (
        @UnitsInStock < @Quantity
    )
    BEGIN
        ;THROW 52000, 'There is not enough dish in stock.', 1
    END

    IF EXISTS
    (
        SELECT [CustomerID] FROM [CustomerIndividuals]
        WHERE [CustomerID] = @CustomerID
    )
    BEGIN

        IF EXISTS
        (
            SELECT [DiscountID] FROM [CustomerDiscountFT]
            WHERE [CustomerID] = @CustomerID
        )
        BEGIN
            SET @DiscountIDFT = (
                SELECT [DiscountID] FROM
[CustomerDiscountFT] WHERE [CustomerID] = @CustomerID
            );
        END
    END

```

```

IF EXISTS
(
    SELECT [DiscountID] FROM [CustomerDiscountsST]
    WHERE [CustomerID] = @CustomerID
    AND [UseDate] IS NULL
)
BEGIN
    SET @DiscountIDST=(
        SELECT [DiscountID] FROM
        [CustomerDiscountsST]
        WHERE [CustomerID] = @CustomerID
        AND [UseDate] IS NULL
    );
END

IF
(
    (SELECT [Value] FROM [DiscountSetDetails] AS DSD
    INNER JOIN [DiscountsSet] AS DS
    ON DSD.[SetID] = DS.[SetID]
    WHERE DS.[SetName] = 'R'
    AND DSD.[DiscountID] = @DiscountIDFT)
    >=
    (SELECT [Value] FROM [DiscountSetDetails] AS DSD
    INNER JOIN [DiscountsSet] AS DS
    ON DSD.[SetID] = DS.[SetID]
    WHERE DS.[SetName] = 'R'
    AND DSD.[DiscountID] = @DiscountIDST)
)
BEGIN
    SET @Discount =
    (SELECT [Value] FROM [DiscountSetDetails] AS DSD
    INNER JOIN [DiscountsSet] AS DS
    ON DSD.[SetID] = DS.[SetID]
    WHERE DS.[SetName] = 'R'
    AND DSD.[DiscountID] = @DiscountIDFT)
END
ELSE
BEGIN
    SET @Discount =
    (SELECT [Value] FROM [DiscountSetDetails] AS DSD
    INNER JOIN [DiscountsSet] AS DS

```

```

        ON DSD.[SetI] = DS.[SetID]
        WHERE DS.[SetName] = 'R'
        AND DSD.[DiscountID] = @DiscountIDST)
    END
END
ELSE
BEGIN
    SET @Discount = 0
END

IF EXISTS
(
    SELECT [DishesHistoryID] FROM [DishesHistory] AS DH
    INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
    INNER JOIN Categories AS C
    ON D.[CategoryID] = C.[CategoryID]
    WHERE DH.[DishesHistoryID] = @DishesHistoryID
    AND C.[CategoryName] = 'Owoce morza'
)
BEGIN
    IF NOT
    (
        DATEPART(WEEKDAY, @ReceiveDate) BETWEEN 4 AND 6
    )
    BEGIN
        ;THROW 52000, 'Seafood can be order only between
        thursday and saturday.', 1
    END

    IF
    (
        DATEDIFF(WEEK, @OrderDate, @ReceiveDate) = 0
    )
    AND
    (
        DATEPART(WEEKDAY, @ReceiveDate) NOT LIKE 1
    )
    BEGIN
        ;THROW 52000, 'Seafood must be ordered before
        Tuesday.', 1
    END
END
END

```

```

        UPDATE [DishesHistory]
        SET [UnitsInStock] = @UnitsInStock - @Quantity
        WHERE [DishesHistoryID] = @DishesHistoryID
    INSERT INTO [OrderDetails]([OrderID], [DishesHistoryID],
    [Quantity], [DishPrice])
    VALUES (@OrderID, @DishesHistoryID, @Quantity,
    (@BasicDishPrice * (100 - @Discount) ) / 100)

END TRY
BEGIN CATCH
DELETE FROM [OrderDetails]
    WHERE [OrderID] = @OrderID
DELETE FROM [Orders]
    WHERE [OrderID] = @OrderID
DECLARE @errorMsg nvarchar(2048) = 'Cannot add dish to order.
Order is removed. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO

```


7. AddFirmCustomer – dodaje klienta indywidualnego

```
CREATE PROCEDURE [AddFirmCustomer]
    @CompanyName varchar(50),
    @NIP nchar(10),
    @Address varchar(50),
    @PostalCode varchar(50),
    @Phone nchar(9),
    @CityName varchar(50)
AS
BEGIN
    BEGIN TRY

        IF NOT EXISTS
        (
            SELECT [CityID] FROM [Cities] WHERE [CityName] = @CityName
        )
        BEGIN
            ;THROW 52000, 'City does not exist.', 1
        END

        DECLARE @CityID int;
        SET @CityID = (
            SELECT [CityID] FROM [Cities] WHERE [CityName] = @CityName
        );

        INSERT INTO [Customers]([Phone])
        VALUES (@Phone)

        DECLARE @CustomerID int;
        SELECT @CustomerID = SCOPE_IDENTITY();

        INSERT INTO [CustomerFirms]([CustomerID], [CityID],
            [PostalCode], [Address], [CompanyName], [NIP])
        VALUES (@CustomerID, @CityID, @PostalCode, @Address,
            @CompanyName, @NIP)
```

```
END TRY
BEGIN CATCH
DELETE FROM [Customers]
    WHERE [CustomerID] = @CustomerID
DELETE FROM [CustomerFirms]
    WHERE [CustomerID] = @CustomerID
DECLARE @errorMsg nvarchar(2048) = 'Cannot add new Firm
Customer. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO
```

8. AddFirmEmployee – dodaje pracownika klienta firmowego

```
CREATE PROCEDURE [AddFirmEmployee]
    @FirstName varchar(50),
    @LastName varchar(50),
    @NIP nchar(10),
    @Phone nchar(9)
AS
BEGIN
    BEGIN TRY
        DECLARE @CustomerID int;
        DECLARE @FirmID int;
        IF NOT EXISTS
        (
            SELECT * FROM [Customers] WHERE [Phone] = @Phone
        )
        BEGIN
            INSERT INTO [Customers]([Phone])
            VALUES (@Phone)
            SELECT @CustomerID = SCOPE_IDENTITY()
            INSERT INTO [CustomerIndividuals]([CustomerID], [FirstName],
            [LastName])
            VALUES (@CustomerID, @FirstName, @LastName)
        END
        ELSE
        BEGIN
            SET @CustomerID = (
                SELECT [CustomerID] FROM [Customers]
                WHERE [Phone] = @Phone
            );
        END

        SET @FirmID = (
            SELECT [CustomerID] FROM [CustomerFirms]
            WHERE [NIP] = @NIP
        );

        IF NOT EXISTS
        (
            SELECT [CustomerID] FROM [CustomerFirms]
            WHERE [NIP] = @NIP
        )
```

```

        BEGIN
            ;THROW 52000, 'Firm does not exist.', 1
        END

INSERT INTO [CustomerFirmsEmployees]([CustomerID], [FirmID])
VALUES (@CustomerID, @FirmID)

END TRY
BEGIN CATCH
IF NOT EXISTS
(
    SELECT * FROM [Customers] WHERE [Phone] = @Phone
)
BEGIN
    DELETE FROM [Customers]
        WHERE [CustomerID] = @CustomerID
    DELETE FROM [CustomerIndividuals]
        WHERE [CustomerID] = @CustomerID
END
DECLARE @errorMsg nvarchar(2048) = 'Cannot add new Firm
Employee. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO

```

9. AddIndividualCustomer – dodaje klienta indywidualnego

```
CREATE PROCEDURE [AddIndividualCustomer]
    @FirstName varchar(50),
    @LastName varchar(50),
    @Phone nchar(9)
AS
BEGIN
    BEGIN TRY

        INSERT INTO [Customers]([Phone])
        VALUES (@Phone)
        DECLARE @CustomerID int;
        SELECT @CustomerID = SCOPE_IDENTITY();
        INSERT INTO [CustomerIndividuals]([CustomerID], [FirstName],
        [LastName])
        VALUES (@CustomerID, @FirstName, @LastName)

    END TRY
    BEGIN CATCH
        DELETE FROM [Customers]
            WHERE [CustomerID] = @CustomerID
        DELETE FROM [CustomerIndividuals]
            WHERE [CustomerID] = @CustomerID
        DECLARE @errorMsg nvarchar(2048)= 'Cannot add new Individual
        Customer. Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

10. AddOrder – dodaje nowe zamówienie

```
CREATE PROCEDURE [AddOrder]
    @Phone nchar(9),
    @EmployeeID int = NULL,
    @PaymentName varchar(50),
    @ReceiveDate datetime
AS
BEGIN
    BEGIN TRY
        DECLARE @OrderID int;
        DECLARE @CustomerID int;
        DECLARE @PaymentTypeID int;

        IF NOT EXISTS
        (
            SELECT [CustomerID] FROM [Customers]
            WHERE [Phone] = @Phone
        )
        BEGIN
            ;THROW 52000, 'Customer does not exist.', 1
        END

        SET @CustomerID = (
            SELECT [CustomerID] FROM [Customers]
            WHERE [Phone] = @Phone
        );

        IF NOT EXISTS
        (
            SELECT [PaymentTypeID] FROM [PaymentType]
            WHERE [PaymentName] = @PaymentName
        )
        BEGIN
            ;THROW 52000, 'Payment type does not exist.', 1
        END

        SET @PaymentTypeID = (
            SELECT [PaymentTypeID] FROM [PaymentType]
            WHERE [PaymentName] = @PaymentName
        );
    
```

```

IF
(
@EmployeeID IS NOT NULL
)
BEGIN
    IF NOT EXISTS
    (
        SELECT [EmployeeID] FROM [Employees]
        WHERE [EmployeeID] = @EmployeeID
    )
    BEGIN
        ;THROW 52000, 'Employee does not exist.', 1
    END
END

IF
(
    DATEDIFF(DAY, GETDATE(), @ReceiveDate) < 0
)
BEGIN
    ;THROW 52000, 'Receive date can not be before order
    date', 1
END

INSERT INTO [Orders]([CustomerID], [EmployeeID],
[OrderDate], [ReceiveDate], [PaymentTypeID])
VALUES (@CustomerID, @EmployeeID, GETDATE(), @ReceiveDate,
@PaymentTypeID)
SELECT @OrderID = SCOPE_IDENTITY()
END TRY
BEGIN CATCH
DELETE FROM [Orders]
    WHERE [OrderID] = @OrderID
DECLARE @errorMsg nvarchar(2048)= 'Cannot add new order. Error
message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
SELECT @OrderID AS 'OrderID'
END
GO

```

11. **AddPaymentType** – dodaje nowy typ płatności

```
CREATE PROCEDURE [AddPaymentType]
    @PaymentName varchar(50)
AS
BEGIN
    BEGIN TRY
        INSERT INTO [PaymentType]([PaymentName])
        VALUES (@PaymentName)
        DECLARE @PaymentTypeID int
        SELECT @PaymentTypeID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [PaymentType]
        WHERE [PaymentTypeID] = @PaymentTypeID

        DECLARE @errorMsg nvarchar(2048) = 'Cannot add new Payment
        Type. Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```


12. AddReservationForFirm – dodaje rezerwację dla klienta firmowego

```
CREATE PROCEDURE [AddReservationForFirm]
    @FirmID int,
    @ReservationDate date
AS
BEGIN
    BEGIN TRY

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [CustomerFirms]
             WHERE [CustomerID] = @FirmID)
        )
        BEGIN
            ;THROW 52000, 'Firm does not exist.', 1
        END

        IF
        (
            DATEDIFF(DAY, GETDATE(), @ReservationDate) <= 0
        )
        BEGIN
            ;THROW 52000, 'Invalid reservation date.', 1
        END

        INSERT INTO [Reservations]([ReservationDate])
        VALUES (@ReservationDate)
        DECLARE @ReservationID int
        SELECT @ReservationID = SCOPE_IDENTITY()

        INSERT INTO [ReservationsFirms]([ReservationID], [FirmID])
        VALUES (@ReservationID, @FirmID)

    END TRY
    BEGIN CATCH

        DELETE FROM [Reservations]
        WHERE [ReservationID] = @ReservationID
        DELETE FROM [ReservationsFirms]
        WHERE [ReservationID] = @ReservationID
    END CATCH
END
```

```
DECLARE @errorMsg nvarchar(2048) = 'Cannot add reservation.  
Error message: '  
+ERROR_MESSAGE();  
THROW 52000, @errorMsg, 1;  
END CATCH  
END  
GO
```

13. **AddReservationForFirmAnonymous** – dodaje rezerwację dla klienta firmowego bez wskazywania pracowników

```
CREATE PROCEDURE [AddReservationForFirmAnonymous]
    @FirmID int,
    @ReservationID int,
    @PeopleCount int
AS
BEGIN
    BEGIN TRY

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [CustomerFirms]
             WHERE [CustomerID] = @FirmID)
        )
        BEGIN
            ;THROW 52000, 'Firm does not exist.', 1
        END

        IF NOT EXISTS
        (
            (SELECT [FirmID] FROM [ReservationsFirms]
             WHERE [FirmID] = @FirmID)
        )
        BEGIN
            ;THROW 52000, 'Reservation does not exist.', 1
        END

        INSERT INTO [ReservationsFirmsDetails]([ReservationID],
        [PeopleCount])
        VALUES (@ReservationID, @PeopleCount)

    END TRY
    BEGIN CATCH

        DELETE FROM [ReservationsFirmsDetails]
            WHERE [ReservationID] = @ReservationID
        DECLARE @errorMsg nvarchar(2048) = 'Cannot add reservation.
        Error message: '
```

```
+ERROR_MESSAGE();  
THROW 52000, @errorMsg, 1;  
END CATCH  
END  
GO
```

14. **AddReservationForFirmEmployee** – dodaje pracownika do rezerwacji dla klienta firmowego

```
CREATE PROCEDURE [AddReservationForFirmEmployee]
    @FirmID int,
    @PeopleCount int,
    @Phone nchar(9),
    @ReservationID int
AS
BEGIN
    BEGIN TRY
        DECLARE @CustomerID int;

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [CustomerFirms]
             WHERE [CustomerID] = @FirmID)
        )
        BEGIN
            ;THROW 52000, 'Firm does not exist.', 1
        END

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [Customers]
             WHERE [Phone] = @Phone)
        )
        BEGIN
            ;THROW 52000, 'Firm employee does not exist.', 1
        END

        SET @CustomerID =
        (
            SELECT [CustomerID] FROM [Customers]
            WHERE [Phone] = @Phone
        );

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [CustomerIndividuals]
             WHERE [CustomerID] = @CustomerID)
```

```

    )
    BEGIN
        ;THROW 52000, 'Firm employee does not exist.', 1
    END

    IF NOT EXISTS
    (
        (SELECT [CustomerID] FROM [CustomerFirmsEmployees]
         WHERE [CustomerID] = @CustomerID
         AND [FirmID] = @FirmID)
    )
    BEGIN
        ;THROW 52000, 'This person is not employee of this
        Firm', 1
    END

    INSERT INTO [ReservationsFirmsEmployees]([ReservationID],
    [EmployeeID], [PeopleCount])
    VALUES (@ReservationID, @CustomerID, @PeopleCount)

    END TRY
    BEGIN CATCH

    DELETE FROM [ReservationsFirmsEmployees]
        WHERE [ReservationID] = @ReservationID
        AND [EmployeeID] = @CustomerID
    DECLARE @errorMsg nvarchar(2048) = 'Cannot add reservation.
    Error message: '
    +ERROR_MESSAGE();
    THROW 52000, @errorMsg, 1;
    END CATCH

END
GO

```

15. **AddReservationForIndividual** – dodaje rezerwację dla klienta indywidualnego

```
CREATE PROCEDURE [AddReservationForIndividual]
    @CustomerID int,
    @OrderID int,
    @PeopleCount int,
    @ReservationDate date
AS
BEGIN
    BEGIN TRY

        IF NOT EXISTS
        (
            (SELECT [OrderID] FROM [Orders]
             WHERE [OrderID] = @OrderID)
        )
        BEGIN
            ;THROW 52000, 'Order does not exist.', 1
        END

        IF NOT EXISTS
        (
            (SELECT [CustomerID] FROM [CustomerIndividuals]
             WHERE [CustomerID] = @CustomerID)
        )
        BEGIN
            ;THROW 52000, 'Customer does not exist.', 1
        END

        IF
        (
            DATEDIFF(DAY, GETDATE(), @ReservationDate) <= 0
        )
        BEGIN
            ;THROW 52000, 'Invalid reservaton date.', 1
        END

        IF
        (
            (SELECT SUM([DishPrice] * [Quantity])
```

```

        FROM [OrderDetails] AS OD
        WHERE OD.[OrderID] = @OrderID GROUP BY OD.[OrderID])
    <
    (SELECT [WZValue] FROM [ReservationRequirements])
)
BEGIN
    ;THROW 52000, 'Value of order is to small.', 1
END

IF
(
    (SELECT COUNT(*) FROM [Orders]
    WHERE [OrderID] = @OrderID GROUP BY [OrderID])
    <
    (SELECT [WKValue] FROM [ReservationRequirements])
)
BEGIN
    ;THROW 52000, 'Number of orders is to small.', 1
END

INSERT INTO [Reservations](ReservationDate)
VALUES (@ReservationDate)
DECLARE @ReservationID int
SELECT @ReservationID = SCOPE_IDENTITY()

INSERT INTO [ReservationsIndividuals]([ReservationID],
[CustomerID], [OrderID], [PeopleCount])
VALUES (@ReservationID, @CustomerID, @OrderID, @PeopleCount)

END TRY
BEGIN CATCH
DELETE FROM [ReservationsIndividuals]
    WHERE [ReservationID] = @ReservationID
DELETE FROM [Reservations]
    WHERE [ReservationID] = @ReservationID
DECLARE @errorMsg nvarchar(2048) = 'Cannot add reservation.
Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH

END
GO

```


16. AddRestaurantEmployee – dodaje pracownika restauracji

```
CREATE PROCEDURE [AddRestaurantEmployee]
    @FirstName varchar(50),
    @LastName varchar(50),
    @ManagerID int = NULL,
    @Phone nchar(9),
    @CityName varchar(50),
    @PostalCode varchar(50),
    @Address varchar(50)
AS
BEGIN
    BEGIN TRY
        DECLARE @CityID int;

        IF NOT EXISTS
        (
            SELECT [CityID] FROM [Cities]
            WHERE [CityName] = @CityName
        )
        BEGIN
            ;THROW 52000, 'City does not exist.', 1
        END

        SET @CityID = (
            SELECT [CityID] FROM [Cities] WHERE [CityName] = @CityName
        );
        INSERT INTO [Employees]([FirstName], [LastName],
            [ManagerID], [Phone], [CityID], [PostalCode], [Address])
            VALUES (@FirstName, @LastName, @ManagerID, @Phone, @CityID,
                @PostalCode, @Address)
        DECLARE @EmployeeID int
        SELECT @EmployeeID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [Employees]
            WHERE [EmployeeID] = @EmployeeID

        DECLARE @errorMsg nvarchar(2048) = 'Cannot add new Firm
            Employee. Error message: '
            +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
```

END CATCH

END

GO

17. AddTable – dodaje nowy stolik

```
CREATE PROCEDURE [AddTable]
    @Places int
AS
BEGIN
    BEGIN TRY
        INSERT INTO [Tables]([Places])
        VALUES (@Places)
        DECLARE @TableID int
        SELECT @TableID = SCOPE_IDENTITY()
    END TRY
    BEGIN CATCH
        DELETE FROM [Tables] WHERE [TableID] = @TableID
        DECLARE @errorMsg nvarchar(2048) = 'Cannot add new
Table. Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

18. AddValueForDiscount – dodaje nową wartość do zniżki

```
CREATE PROCEDURE [AddValueForDiscount]
    @DiscountID int,
    @Type varchar(50),
    @Value int
AS
BEGIN
    DECLARE @SetID INT;
    BEGIN TRY
        IF
        (
            (@Value <= 0)
        )
        BEGIN
            ;THROW 52000, 'Value must be greater than 0.', 1
        END

        IF NOT EXISTS
        (
            (SELECT [SetID] FROM [DiscountsSet]
             WHERE [SetName] = @Type)
        )
        BEGIN
            INSERT INTO [DiscountsSet]([SetName])
            VALUES (@Type)
            SELECT @SetID = SCOPE_IDENTITY()
        END
        ELSE
        BEGIN
            SET @SetID=
            (
                (SELECT [SetID] FROM [DiscountsSet]
                 WHERE [SetName] = @Type)
            )
        END

        INSERT INTO [DiscountSetDetails]([DiscountID], [SetID],
        [Value])
        VALUES (@DiscountID, @SetID, @Value)
    END TRY
    BEGIN CATCH
```

```
DELETE FROM [DiscountSetDetails]
    WHERE [DiscountID] = @DiscountID AND [SetID] = @SetID
DECLARE @errorMsg nvarchar(2048) = 'Cannot add new discount
value. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO
```

19. ChangeMenu – dokonuje aktualizacji menu na kolejny dzień

```
CREATE PROCEDURE [ChangeMenu]
AS
BEGIN
    BEGIN TRY
        DECLARE @InMenu int
        DECLARE @AllDishes int
        DECLARE @Counter int
        DECLARE @NewDish int
        SET @InMenu =
        (
            SELECT COUNT(*) FROM [DishesHistory] AS DH
            INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
            INNER JOIN [Categories] AS C
            ON D.[CategoryID] = C.[CategoryID]
            WHERE [OutMenuDate] IS NULL AND
            C.[CategoryName] != 'Owoce morza'
        )
        SET @AllDishes =
        (
            SELECT COUNT(*) FROM (
                SELECT ROW_NUMBER() OVER ( ORDER BY
Dish.[DishID]) AS RowDish, Dish.[DishID] FROM
                (
                    SELECT DISTINCT D.[DishID], ROW_NUMBER()
OVER (PARTITION BY D.[DishID] ORDER BY D.[DishID]) AS Row
FROM [Dishes] as D
                    INNER JOIN [Categories] AS C
                    ON C.[CategoryID] = D.[CategoryID]
                    LEFT JOIN [DishesHistory] AS DH
                    ON DH.[DishID] = D.[DishID]
                    WHERE C.[CategoryName] != 'Owoce morza'
                    AND (([OutMenuDate] IS NOT NULL
                    AND DATEDIFF(DAY, GETDATE(), [OutMenuDate])
< 1) OR DH.[DishesHistoryID] IS NULL)
                    AND D.[DishID] NOT IN
                    (SELECT D1.[DishID] FROM [Dishes] as D1
                    INNER JOIN [DishesHistory] AS DH1
                    ON DH1.[DishID] = D1.[DishID]
                    WHERE DH1.[OutMenuDate] IS NULL OR
```

```

        DATEDIFF(DAY, GETDATE(), DH1.[OutMenuDate])
        >= 1)
    )
    [Dish] WHERE Row = 1
    )
    FinallDish
)

IF(@AllDishes = 0)
BEGIN
    ;THROW 52000, 'There is no dishes to add.', 1
END

SET @Counter = (
    CEILING(@InMenu / 2)
)

IF(@Counter > @AllDishes)
BEGIN
    SET @Counter = @AllDishes
END

DECLARE @MenuCursor CURSOR;
    DECLARE @DishIDInMenu int;
    SET @MenuCursor = CURSOR FOR
        SELECT TOP 100 PERCENT [DishesHistoryID] FROM
        [DishesHistory] AS DH
        INNER JOIN [Dishes] AS D
        ON D.[DishID] = DH.[DishID]
        INNER JOIN [Categories] AS C ON
        C.[CategoryID] = D.[CategoryID]
        WHERE [OutMenuDate] IS NULL
        AND C.[CategoryName] != 'Owoce morza'
        AND DATEDIFF(DAY, GETDATE(), DH.[InMenuDate]) < 0
        ORDER BY [InMenuDate]

    BEGIN
        OPEN @MenuCursor
        FETCH NEXT FROM @MenuCursor
        INTO @DishIDInMenu
    
```

```

WHILE @@FETCH_STATUS = 0
BEGIN
    IF (@Counter > 0)
        BEGIN
            UPDATE [DishesHistory]
            SET [OutMenuDate] = DATEADD(DAY, 1,
            GETDATE()) WHERE
            [DishesHistoryID] = @DishIDInMenu
            SET @Counter = (@Counter - 1)
        END
        FETCH NEXT FROM @MenuCursor
        INTO @DishIDInMenu
    END
    CLOSE @MenuCursor
    DEALLOCATE @MenuCursor
END

SET @Counter = (
    CEILING(@InMenu / 2)
)

SET @AllDishes =
(
    SELECT COUNT(*) FROM (
        SELECT ROW_NUMBER() OVER (
            ORDER BY Dish.[DishID]) AS
        RowDish, Dish.[DishID] FROM
        (
            SELECT DISTINCT D.[DishID],
            ROW_NUMBER() OVER (PARTITION BY
            D.[DishID] ORDER BY D.[DishID]) AS Row
            FROM [Dishes] AS D
            INNER JOIN [Categories] AS C
            ON C.[CategoryID] = D.[CategoryID]
            LEFT JOIN [DishesHistory] AS DH
            ON DH.[DishID] = D.[DishID]
            WHERE C.[CategoryName] != 'Owoce morza'
            AND ([OutMenuDate] IS NOT NULL
            AND DATEDIFF(DAY, GETDATE(),
            [OutMenuDate]) < 1)
            OR DH.[DishesHistoryID] IS NULL)
        )
    )

```



```

        AND D.[DishID] NOT IN
        (SELECT D1.[DishID] FROM [Dishes] AS D1
        INNER JOIN [DishesHistory] AS DH1
        ON DH1.[DishID] = D1.[DishID]
        WHERE DH1.[OutMenuDate] IS NULL
        OR DATEDIFF(DAY, GETDATE(),
        DH1.[OutMenuDate]) >= 1)
    )
    Dish WHERE Row = 1
    )
    FinallDish
)

IF(@AllDishes = 0)
BEGIN
    ;THROW 52000, 'There is no dishes to add.', 1
END

WHILE @Counter > 0 AND @AllDishes > 0
BEGIN

    SET @NewDish = (
    SELECT FinallDish.[DishID] FROM (
        SELECT ROW_NUMBER() OVER (
            ORDER BY Dish.[DishID]) AS
            RowDish, Dish.[DishID] FROM
        (
            SELECT DISTINCT D.[DishID],
            ROW_NUMBER() OVER (PARTITION BY
            D.[DishID] ORDER BY D.[DishID]) AS Row
            FROM [Dishes] as D
            INNER JOIN [Categories] AS C
            ON C.[CategoryID] = D.[CategoryID]
            LEFT JOIN [DishesHistory] AS DH
            ON DH.[DishID] = D.[DishID]
            WHERE C.[CategoryName] != 'Owoce morza'
            AND ([OutMenuDate] IS NOT NULL
            AND DATEDIFF(DAY, GETDATE(),
            [OutMenuDate]) < 1)
            OR DH.[DishesHistoryID] IS NULL)
            AND D.[DishID] NOT IN
            (SELECT D1.[DishID] FROM [Dishes] AS D1

```

```

        INNER JOIN [DishesHistory] AS DH1
        ON DH1.[DishID] = D1.[DishID]
        WHERE DH1.[OutMenuDate] IS NULL
        OR DATEDIFF(DAY, GETDATE(),
        DH1.[OutMenuDate]) >= 1)
    )
    Dish WHERE Row = 1
    )
    FinalDish WHERE RowDish =
    FLOOR(RAND() * (@AllDishes) + 1)
)

INSERT INTO [DishesHistory]([DishPrice],
[InMenuDate], [UnitsInStock], [DishID])
VALUES (
(SELECT [BasicDishPrice] FROM [Dishes]
WHERE [DishID] = @NewDish),
DATEADD(DAY, 1, GETDATE()),
(SELECT [StartUnits] FROM [Dishes]
WHERE [DishID] = @NewDish),
@NewDish
)

SET @AllDishes = (@AllDishes - 1)
SET @Counter = (@Counter - 1)

END

END TRY
BEGIN CATCH

DECLARE @errorMsg nvarchar(2048) = 'Cannot update menu. Error
message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH

END
GO

```

20. **ChangeUnitsInStockValueForDish** – zmienia ilość sztuk dania na stanie

```
CREATE PROCEDURE [ChangeUnitsInStockValueForDish]
    @DishName varchar(50),
    @UnitsInStock int
AS
BEGIN
    BEGIN TRY
        DECLARE @DishID int;
        DECLARE @DishesHistoryID int;

        IF NOT EXISTS
        (
            SELECT [DishID] FROM [Dishes]
            WHERE [DishName] = @DishName
        )
        BEGIN
            ;THROW 52000, 'Dish does not exist.', 1
        END

        SET @DishID = (
            SELECT [DishID] FROM [Dishes]
            WHERE [DishName] = @DishName
        );

        IF NOT EXISTS
        (
            SELECT [DishesHistoryID] FROM [DishesHistory]
            WHERE [DishID] = @DishID AND [OutMenuDate] IS NULL
        )
        BEGIN
            ;THROW 52000, 'Dish is not in Menu.', 1
        END

        SET @DishesHistoryID = (
            SELECT [DishesHistoryID] FROM [DishesHistory]
            WHERE [DishID] = @DishID AND [OutMenuDate] IS NULL
        );

        IF NOT EXISTS
```

```

(
    SELECT [DishID] FROM [Dishes]
    WHERE [DishName] = @DishName
    AND @UnitsInStock >= [MinStockValue]
)
BEGIN
    ;THROW 52000, 'New value is smaller than minimal value
    for this dish.', 1
END

UPDATE [DishesHistory] SET [UnitsInStock] = @UnitsInStock
WHERE [DishesHistoryID] = @DishesHistoryID

END TRY
BEGIN CATCH
DECLARE @errorMsg nvarchar(2048) = 'Cannot change units in
stock value. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO

```

21. CheckMenu – Sprawdza czy obecne menu spełnia wymagania co do aktualności dań

```
CREATE PROCEDURE [CheckMenu]
AS
BEGIN
    BEGIN TRY
        DECLARE @InMenu int
        DECLARE @Valid int
        SET @InMenu =
        (
            SELECT COUNT(*) FROM [DishesHistory] AS DH
            INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
            INNER JOIN [Categories] AS C
            ON D.[CategoryID] = C.[CategoryID]
            WHERE [OutMenuDate] IS NULL
            AND C.[CategoryName] != 'Owoce morza'
        )
        SET @Valid =
        (
            SELECT COUNT(*) FROM [DishesHistory] AS DH
            INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
            INNER JOIN [Categories] AS C
            ON D.[CategoryID] = C.[CategoryID]
            WHERE [OutMenuDate] IS NULL
            AND C.[CategoryName] != 'Owoce morza'
            AND DATEDIFF(DAY, [InMenuDate], GETDATE()) < 14
        )
        IF 2 * @Valid > @InMenu
        BEGIN
            ;THROW 52000, 'More than half of dishes in menu have
            been there for longer than two weeks', 1
        END
    END TRY
    BEGIN CATCH
        DECLARE @errorMsg nvarchar(2048) = 'Menu is invalid. Error
        message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
```

22. ConfirmReservation – potwierdza rezerwację i przydziela stół

```
CREATE PROCEDURE [ConfirmReservation]
    @EmployeeID int,
    @ReservationID int
AS
BEGIN
    BEGIN TRY
        DECLARE @PeopleCount int;
        DECLARE @ReservationDate date;
        DECLARE @TableID int;

        IF NOT EXISTS
        (
            (SELECT [ReservationID] FROM [Reservations] WHERE
[ReservationID] = @ReservationID)
        )
        BEGIN
            ;THROW 52000, 'Reservation does not exist.', 1
        END

        SET @ReservationDate =
        (
            (SELECT [ReservationDate] FROM [Reservations]
WHERE [ReservationID] = @ReservationID)
        );

        IF EXISTS
        (
            (SELECT [ReservationID] FROM [ReservationsIndividuals]
WHERE [ReservationID] = @ReservationID)
        )
        BEGIN
            SET @PeopleCount =
            (
                (SELECT [PeopleCount] FROM
[ReservationsIndividuals]
WHERE [ReservationID] = @ReservationID)
            )
        )
    END TRY
    BEGIN CATCH
        -- Handle error
    END CATCH
END
```

```

IF NOT EXISTS
(
    SELECT * FROM [FreeTables](@ReservationDate)
    WHERE [Places] >= @PeopleCount
)
BEGIN
    ;THROW 52000, 'There is not free table.', 1
END

SET @TableID =
(
    SELECT TOP 1 [TableID] FROM
    [FreeTables](@ReservationDate)
    WHERE [Places] >= @PeopleCount ORDER BY [Places]
)
UPDATE [ReservationsIndividuals]
SET [TableID] = @TableID
WHERE [ReservationID] = @ReservationID

END

IF EXISTS
(
    (SELECT [ReservationID] FROM [ReservationsFirms]
    WHERE [ReservationID] = @ReservationID)
)
BEGIN

    DECLARE @RFDIDCursor CURSOR;
    DECLARE @RFDID int;
    SET @RFDIDCursor = CURSOR FOR (SELECT [RFDID]
    FROM [ReservationsFirmsDetails]
    WHERE [ReservationID] = @ReservationID)

    BEGIN
        OPEN @RFDIDCursor
        FETCH NEXT FROM @RFDIDCursor
        INTO @RFDID
        WHILE @@FETCH_STATUS = 0
        BEGIN

```

```

SET @PeopleCount =
(
    (SELECT [PeopleCount]
     FROM [ReservationsFirmsDetails]
     WHERE [RFDID] = @RFDID)
)
IF NOT EXISTS
(
    SELECT * FROM
    [FreeTables](@ReservationDate)
    WHERE [Places] >= @PeopleCount
)
BEGIN
    ;THROW 52000, 'There is not free
    table.', 1
END

SET @TableID =
(
    SELECT TOP 1 [TableID]
    FROM [FreeTables](@ReservationDate)
    WHERE [Places] >= @PeopleCount
    ORDER BY [Places]
)

UPDATE [ReservationsFirmsDetails]
SET [TableID] = @TableID
WHERE [RFDID] = @RFDID

FETCH NEXT FROM @RFDIDCursor
INTO @RFDID

END
CLOSE @RFDIDCursor
DEALLOCATE @RFDIDCursor
END

DECLARE @FirmEmployeeIDCursor CURSOR;
DECLARE @FirmEmployeeID int;
SET @FirmEmployeeIDCursor = CURSOR FOR
(SELECT [EmployeeID] FROM [ReservationsFirmsEmployees]
WHERE [ReservationID] = @ReservationID)

```



```

BEGIN
    OPEN @FirmEmployeeIDCursor
    FETCH NEXT FROM @FirmEmployeeIDCursor
    INTO @FirmEmployeeID
    WHILE @@FETCH_STATUS = 0
    BEGIN

        SET @PeopleCount =
        (
            (SELECT [PeopleCount]
             FROM [ReservationsFirmsEmployees]
             WHERE [ReservationID] = @ReservationID
             AND [EmployeeID] = @FirmEmployeeID)
        )

        IF NOT EXISTS
        (
            SELECT * FROM
            [FreeTables](@ReservationDate)
            WHERE [Places] >= @PeopleCount
        )
        BEGIN
            ;THROW 52000, 'There is not free
            table.', 1
        END

        SET @TableID =
        (
            SELECT TOP 1 [TableID]
            FROM [FreeTables](@ReservationDate)
            WHERE [Places] >= @PeopleCount
            ORDER BY [Places]
        )

        UPDATE [ReservationsFirmsEmployees] SET
        [TableID] = @TableID
        WHERE [ReservationID] = @ReservationID
        AND [EmployeeID] = @FirmEmployeeID

        FETCH NEXT FROM @FirmEmployeeIDCursor
        INTO @FirmEmployeeID
    
```

```

        END
        CLOSE @FirmEmployeeIDCursor
        DEALLOCATE @FirmEmployeeIDCursor
    END
END

UPDATE [Reservations] SET [EmployeeID] = @EmployeeID
WHERE [ReservationID] = @ReservationID
END TRY
BEGIN CATCH

    IF EXISTS
    (
        (SELECT [ReservationID]
        FROM [ReservationsIndividuals]
        WHERE [ReservationID] = @ReservationID)
    )
    BEGIN
        UPDATE [ReservationsIndividuals]
        SET [TableID] = NULL
        WHERE [ReservationID] = @ReservationID
    END

    SET @RFDIDCursor = CURSOR FOR (SELECT [RFDID]
    FROM [ReservationsFirmsDetails]
    WHERE [ReservationID] = @ReservationID)
    BEGIN
        OPEN @FirmEmployeeIDCursor
        FETCH NEXT FROM @FirmEmployeeIDCursor
        INTO @FirmEmployeeID
        WHILE @@FETCH_STATUS = 0
        BEGIN

            UPDATE [ReservationsFirmsEmployees]
            SET [TableID] = NULL
            WHERE [ReservationID] = @ReservationID
            AND [EmployeeID] = @FirmEmployeeID

            FETCH NEXT FROM @FirmEmployeeIDCursor
            INTO @FirmEmployeeID
        END
    END

```

```

        END
        CLOSE @FirmEmployeeIDCursor
        DEALLOCATE @FirmEmployeeIDCursor
    END

    SET @FirmEmployeeIDCursor = CURSOR FOR
    (SELECT [EmployeeID] FROM [ReservationsFirmsEmployees]
    WHERE [ReservationID] = @ReservationID)
    BEGIN
        OPEN @RFDIDCursor
        FETCH NEXT FROM @RFDIDCursor
        INTO @RFDID
        WHILE @@FETCH_STATUS = 0
        BEGIN

            UPDATE [ReservationsFirmsDetails]
            SET [TableID] = NULL WHERE [RFDID] = @RFDID

            FETCH NEXT FROM @RFDIDCursor
            INTO @RFDID

        END
        CLOSE @RFDIDCursor
        DEALLOCATE @RFDIDCursor
    END

    UPDATE [Reservations] SET [EmployeeID] = NULL
    WHERE [ReservationID] = @ReservationID

    DECLARE @errorMsg nvarchar(2048) = 'Cannot add confirm
    reservation. Error message: '
    +ERROR_MESSAGE();
    THROW 52000, @errorMsg, 1;
    END CATCH
END
GO

```

23. RemoveDishFromMenu – usuwa danie z aktualnego menu

```
CREATE PROCEDURE [RemoveDishFromMenu]
    @DishName varchar(50)
AS
BEGIN
    BEGIN TRY
        DECLARE @DishID int;
        DECLARE @DishesHistoryID int;
        IF NOT EXISTS
        (
            SELECT [DishID] FROM [Dishes]
            WHERE [DishName] = @DishName
        )
        BEGIN
            ;THROW 52000, 'Dish does not exist.', 1
        END

        SET @DishID = (
            SELECT [DishID] FROM [Dishes]
            WHERE [DishName] = @DishName
        );

        IF NOT EXISTS
        (
            SELECT [DishID] FROM [DishesHistory]
            WHERE [DishID] = @DishID AND [OutMenuDate] IS NULL
        )
        BEGIN
            ;THROW 52000, 'This dish is not in menu.', 1
        END

        SET @DishesHistoryID = (
            SELECT [DishesHistoryID] FROM [DishesHistory]
            WHERE [DishID] = @DishID AND [OutMenuDate] IS NULL
        );

        UPDATE [DishesHistory] SET [OutMenuDate] = GETDATE()
        WHERE [DishesHistoryID] = @DishesHistoryID
    END TRY
    BEGIN CATCH
```

```
DECLARE @errorMsg nvarchar(2048) = 'Cannot delete dish from
Menu. Error message: '
+ERROR_MESSAGE();
THROW 52000, @errorMsg, 1;
END CATCH
END
GO
```

24. UpdateCategory– aktualizuje informacje o kategorii dania

```
CREATE PROCEDURE [UpdateCategory]
    @CategoryName varchar(50),
    @NewCategoryName varchar(50),
    @Description varchar(500)
AS
BEGIN
    DECLARE @CategoryID int
    BEGIN TRY

        IF NOT EXISTS
        (
            (SELECT [CategoryID] FROM [Categories]
            WHERE [CategoryName] = @CategoryName)
        )
        BEGIN
            ;THROW 52000, 'Category does not exist.', 1
        END

        SET @CategoryID =
        (
            (SELECT [CategoryID] FROM [Categories]
            WHERE [CategoryName] = @CategoryName)
        )
        UPDATE [Categories] SET [CategoryName] = @NewCategoryName,
        [Description] = @Description WHERE [CategoryID] = @CategoryID

    END TRY
    BEGIN CATCH

        DECLARE @errorMsg nvarchar(2048) = 'Cannot update category.
Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

25. **UpdateDish**– aktualizuje parametry i informacje o daniu

```
CREATE PROCEDURE [UpdateDish]
    @DishName varchar(50),
    @NewDishName varchar(50),
    @Description varchar(500),
    @MinStockValue int,
    @StartUnits int
AS
BEGIN
    DECLARE @DishID int
    BEGIN TRY

        IF NOT EXISTS
        (
            (SELECT [DishID] FROM [Dishes] WHERE [DishName] = @DishName)
        )
        BEGIN
            ;THROW 52000, 'Dish does not exist.', 1
        END

        SET @DishID =
        (
            (SELECT [[DishID]] FROM [Dishes]
             WHERE [DishName] = @DishName)
        )
        UPDATE [Dishes] SET [DishName] = @NewDishName,
            [Description] = @Description,
            [MinStockValue] = @MinStockValue, [StartUnits] = @StartUnits
        WHERE [DishID] = @DishID

    END TRY
    BEGIN CATCH

        DECLARE @errorMsg nvarchar(2048) = 'Cannot update dish. Error
        message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```

26. UpdateReservationRequirements– aktualizuje wymagania dotyczące możliwości składania rezerwacji

```
CREATE PROCEDURE [UpdateReservationRequirements]
    @WZValue int,
    @WKValue int
AS
BEGIN
    BEGIN TRY

        IF
            (@WZValue) < 0 OR (@WKValue) < 0
        BEGIN
            ;THROW 52000, 'Value must be greater than 0.', 1
        END

        UPDATE [ReservationRequirements]
        SET [WKValue] = @WKValue, [WZValue] = @WZValue

    END TRY
    BEGIN CATCH

        DECLARE @errorMsg nvarchar(2048) = 'Cannot update reservation
        requirements. Error message: '
        +ERROR_MESSAGE();
        THROW 52000, @errorMsg, 1;
    END CATCH
END
GO
```


7. Funkcje zwracające tabele (Widoki parametryzowane)

1. **CustomerDiscountSecondTypeHistory** – historia otrzymanych zniżek drugiego typu dla danego klienta

```
CREATE FUNCTION [CustomerDiscountSecondTypeHistory]
(
    @CustomerID int
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT DS.[SetName], DSD.[Value], CDST.[ReceivedDate],
        CDST.[UseDate]
        FROM [CustomerDiscountsST] AS CDST
        INNER JOIN [Discounts] AS D
        ON CDST.[DiscountID] = D.[DiscountID]
        INNER JOIN [DiscountSetDetails] AS DSD
        ON D.[DiscountID] = DSD.[DiscountID]
        INNER JOIN [DiscountsSet] AS DS
        ON DSD.[SetID] = DS.[SetID]
        WHERE CDST.[CustomerID] = @CustomerID
    )
GO
```

2. CustomerOrderHistory – historia zamówień konkretnego klienta

```
CREATE FUNCTION [CustomerOrderHistory]
(
    @CustomerID int
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT *,
            (
                SELECT SUM(OD.[DishPrice] * OD.[Quantity])
                FROM [OrderDetails] AS OD
                WHERE OD.[OrderID] = O.[OrderID]
                GROUP BY OD.[OrderID]
            ) AS 'Income'
        FROM [Orders] AS O
        WHERE O.[CustomerID] = @CustomerID
    )
GO
```

3. CustomerOrderHistoryDetails – szczegółowa historia zamówień konkretnego klienta

```
CREATE FUNCTION [CustomerOrderHistoryDetails]
(
    @CustomerID int
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT O.[OrderID], O.[OrderDate], D.[DishID], D.[DishName],
            OD.[Quantity], OD.[DishPrice], OD.[Quantity] *
            OD.[DishPrice] AS 'Total' FROM [Orders] AS O
        INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
        INNER JOIN [DishesHistory] AS DH
        ON OD.[DishesHistoryID] = DH.[DishesHistoryID]
        INNER JOIN [Dishes] AS D ON DH.[DishID] = D.[DishID]
        WHERE OD.[OrderID] = O.[OrderID]
        AND O.[CustomerID] = @CustomerID
        GROUP BY OD.[OrderID], D.[DishID], D.[DishName],
            OD.[Quantity], OD.[DishPrice], O.[OrderID], O.[OrderDate]
    )
GO
```

4. FreeTables – wolne stoliki na dany dzień

```
CREATE FUNCTION [FreeTables]
(
    @Date date
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT T.[TableID], T.[Places] FROM [Reservations] AS R
        INNER JOIN [ReservationsFirms] AS RF
        ON R.[ReservationID] = RF.[ReservationID]
        INNER JOIN [ReservationsFirmsEmployees] AS RFE
        ON RF.[ReservationID] = RFE.[ReservationID]
        RIGHT OUTER JOIN [Tables] AS T
        ON RFE.[TableID] = T.[TableID]
        AND DATEDIFF(DAY, @Date, R.[ReservationDate]) = 0
        WHERE R.[ReservationID] IS NULL
        INTERSECT
        SELECT T.[TableID], T.[Places] FROM [Reservations] AS R
        INNER JOIN [ReservationsFirms] AS RF
        ON R.[ReservationID] = RF.[ReservationID]
        INNER JOIN [ReservationsFirmsDetails] AS RFD
        ON RF.[ReservationID] = RFD.[ReservationID]
        RIGHT OUTER JOIN [Tables] AS T
        ON RFD.[TableID] = T.[TableID]
        AND DATEDIFF(DAY, @Date, R.[ReservationDate]) = 0
        WHERE R.[ReservationID] IS NULL
        INTERSECT
        SELECT T.[TableID], T.[Places] FROM [Reservations] AS R
        INNER JOIN [ReservationsIndividuals] AS RI
        ON R.[ReservationID] = RI.[ReservationID]
        RIGHT OUTER JOIN [Tables] AS T
        ON RI.[TableID] = T.[TableID]
        AND DATEDIFF(DAY, @Date, R.[ReservationDate]) = 0
        WHERE R.[ReservationID] IS NULL
    )
GO
```

5. **OrdersForDay** – zamówienia złożone na dany dzień

```
CREATE FUNCTION [OrdersForDay]
(
    @ReceiveDate date
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT * FROM [Orders]
        WHERE DATEDIFF(DAY, @ReceiveDate, [ReceiveDate]) = 0
    )
GO
```

6. **ReservationsForDay** – rezerwacje złożone na dany dzień

```
CREATE FUNCTION [ReservationsForDay]
(
    @ReservationDate date
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT * FROM [Reservations]
        WHERE DATEDIFF(DAY, @ReservationDate, [ReservationDate]) = 0
    )
GO
```

7. ReservationsForFirmCustomer – historia rezerwacji złożonych przez klienta firmowego

```
CREATE FUNCTION [ReservationsForFirmCustomer]
(
    @CustomerID int
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT R.[ReservationID], R.[ReservationDate], NULL
        AS 'EmployeeID', RFD.[PeopleCount], RFD.[TableID]
        FROM [Reservations] AS R
        INNER JOIN [ReservationsFirms] AS RF
        ON R.[ReservationID] = RF.[ReservationID]
        INNER JOIN [ReservationsFirmsDetails] AS RFD
        ON RF.[ReservationID] = RFD.[ReservationID]
        WHERE RF.FirmID = @CustomerID

        UNION

        SELECT R.[ReservationID], R.[ReservationDate],
        RFE.[EmployeeID], RFE.[PeopleCount], RFE.[TableID]
        FROM [Reservations] AS R
        INNER JOIN [ReservationsFirms] AS RF
        ON R.[ReservationID] = RF.[ReservationID]
        INNER JOIN [ReservationsFirmsEmployees] AS RFE
        ON RF.[ReservationID] = RFE.[ReservationID]
        WHERE RF.FirmID = @CustomerID
    )
GO
```

8. **ReservationsForIndividualCustomer** – historia rezerwacji złożonych przez klienta indywidualnego

```
CREATE FUNCTION [ReservationsForIndividualCustomer]
(
    @CustomerID int
)
RETURNS TABLE
AS
    RETURN
    (
        SELECT R.[ReservationID], R.[ReservationDate],
            RI.[PeopleCount], RI.[TableID], RI.[OrderID]
        FROM [Reservations] AS R
        INNER JOIN [ReservationsIndividuals] AS RI
        ON R.[ReservationID] = RI.[ReservationID]
        WHERE RI.CustomerID = @CustomerID
    )
GO
```

8. Funkcje zwracające wartości skalarne

1. **CustomerDiscountForOrder** – wartość zniżki dla danego zamówienia

```
CREATE FUNCTION [CustomerDiscountForOrder]
(
    @OrderID int
)
RETURNS FLOAT
AS
BEGIN
    DECLARE @SumTotal FLOAT
    DECLARE @SumDiscounted FLOAT
    SET @SumTotal =
    (SELECT SUM(DH.[DishPrice] * OD.[Quantity])
    FROM Orders AS O
        INNER JOIN [OrderDetails] AS OD
        ON O.[OrderID] = OD.[OrderID]
        INNER JOIN [DishesHistory] AS DH
        ON OD.[DishesHistoryID] = DH.[DishesHistoryID]
        WHERE O.[OrderID] = @OrderID)
    SET @SumDiscounted =
    (SELECT SUM(OD.[DishPrice] * OD.[Quantity])
    FROM [Orders] AS O
        INNER JOIN [OrderDetails] AS OD
        ON O.[OrderID] = OD.[OrderID]
        WHERE O.[OrderID] = @OrderID)
    RETURN (
        SELECT(@SumTotal - @SumDiscounted)
    )
END
GO
```


2. CustomerOrdersMinValueCountSince – ilość zrealizowanych zamówień o minimalnej wartości dla klienta od konkretnej daty

```
CREATE FUNCTION [CustomerOrdersMinValueCountSince]
(
    @CustomerID int,
    @ReceiveDate datetime = NULL,
    @Value int = 0
)
RETURNS int
AS
BEGIN
    IF @ReceiveDate IS NULL
        SET @ReceiveDate = CAST('1753-1-1' AS DATETIME)
    RETURN
    (
        SELECT COUNT(*)
        FROM [Orders] AS O
        WHERE O.[CustomerID] = @CustomerID
        AND O.[ReceiveDate] > @ReceiveDate
        AND (SELECT SUM(OD.[DishPrice] * OD.[Quantity])
            FROM [OrderDetails] AS OD
            WHERE OD.[OrderID] = O.[OrderID]) > @Value
    )
END
GO
```

3. **CustomerOrdersValueSince** – wartość zrealizowanych zamówień dla klienta od konkretnej daty

```
CREATE FUNCTION [CustomerOrdersValueSince]
(
    @CustomerID int,
    @ReceiveDate datetime = NULL
)
RETURNS int
AS
BEGIN
    IF @ReceiveDate IS NULL
        SET @ReceiveDate = CAST('1753-1-1' AS DATETIME)
    RETURN
    (
        SELECT SUM(OD.[DishPrice] * OD.[Quantity])
        FROM [Orders] AS O
        INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
        WHERE O.[CustomerID] = @CustomerID
        AND O.[ReceiveDate] > @ReceiveDate
    )
END
GO
```

4. **NumberDiscountFTReceived** – ilość klientów, którzy otrzymali zniżkę pierwszego typu

```
CREATE FUNCTION [NumberDiscountFTReceived]
(
)
RETURNS INT
AS
BEGIN
    RETURN ISNULL((
        SELECT COUNT(*) FROM [CustomerIndividuals] AS CI
        INNER JOIN [CustomerDiscountFT] AS CDFT
        ON CI.[CustomerID] = CDFT.[CustomerID]
    ), 0)
END
GO
```

5. **NumberDiscountSTCurrent** – ilość klientów, którzy mają aktywną zniżkę drugiego typu

```
CREATE FUNCTION [NumberDiscountSTCurrent]
()
RETURNS INT
AS
BEGIN
    RETURN ISNULL((
        SELECT COUNT(*) FROM [CustomerIndividuals] AS CI
        INNER JOIN [CustomerDiscountsST] AS CDST
        ON CI.[CustomerID] = CDST.[CustomerID]
        INNER JOIN [Discounts] AS D
        ON CDST.[DiscountID] = D.[DiscountID]
        INNER JOIN [DiscountSetDetails] AS DSD
        ON D.[DiscountID] = DSD.[DiscountID]
        INNER JOIN [DiscountsSet] AS DS
        ON DSD.[SetID] = DS.[SetID]
        WHERE DS.[SetName] = 'D'
        AND DATEDIFF(DAY, CDSD.[ReceivedDate], GETDATE()) <=
        DSD.[Value]
    ),0)
END
GO
```

6. **OrderCost** – Całkowita wartość zamówienia

```
CREATE FUNCTION [OrderCost]
(
    @OrderID int
)
RETURNS FLOAT
AS
BEGIN
    RETURN
    (
        SELECT SUM(OD.[DishPrice] * OD.[Quantity])
        FROM [Orders] AS O
        INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
        WHERE O.[OrderID] = @OrderID
    )
END
GO
```

7. **OrderCostNoDiscount** – Całkowita wartość zamówienia bez uwzględniania zniżek

```
CREATE FUNCTION [OrderCostNoDiscount]
(
    @OrderID int
)
RETURNS FLOAT
AS
BEGIN
    RETURN
    (
        SELECT SUM(DH.[DishPrice] * OD.[Quantity])
        FROM [Orders] AS O
        INNER JOIN [OrderDetails] AS OD ON O.[OrderID] = OD.[OrderID]
        INNER JOIN [DishesHistory] AS DH
        ON OD.[DishesHistoryID] = DH.[DishesHistoryID]
        WHERE O.[OrderID] = @OrderID
    )
END
GO
```

8. ReservationsCount – ilość złożonych przez danego klienta

```
CREATE FUNCTION [ReservationsCount]
(
    @CustomerID int
)
RETURNS int
AS
BEGIN
    DECLARE @CountIndividual int
    DECLARE @CountFirm int
    SET @CountIndividual =
        (
            SELECT COUNT(*) FROM [Reservations] AS R
            INNER JOIN [ReservationsIndividuals] AS RI
            ON R.[ReservationID] = RI.[ReservationID]
            WHERE RI.[CustomerID] = @CustomerID
        )
    SET @CountFirm =
        (
            SELECT COUNT(*) FROM [Reservations] AS R
            INNER JOIN [ReservationsFirms] AS RF
            ON R.[ReservationID] = RF.[ReservationID]
            WHERE RF.[FirmID] = @CustomerID
        )
    RETURN (
        @CountIndividual + @CountFirm
    )
END
GO
```

9. Triggery

1. **DishCountCheck** – po każdym dodaniu dania do zamówienia sprawdza, czy jego dostępna ilość nie jest mniejsza od minimalnej i w razie potrzeby usuwa danie z menu

```
CREATE TRIGGER [DishCountCheck] ON [DishesHistory] AFTER UPDATE
AS
BEGIN
    SET NOCOUNT ON
    DECLARE @DishName varchar(50)
    SET @DishName =
        (SELECT D.[DishName] FROM [Inserted]
         INNER JOIN [Dishes] AS D
         ON [Inserted].[DishID] = D.[DishID])
    IF EXISTS
    (
        SELECT * FROM [Inserted]
        INNER JOIN [Dishes] AS D ON [Inserted].[DishID] = D.[DishID]
        WHERE
        [Inserted].[UnitsInStock] < D.[MinStockValue]
    )
    BEGIN;
        EXECUTE [RemoveDishFromMenu] @DishName;
    END
END
GO

ALTER TABLE [DishesHistory] ENABLE TRIGGER [DishCountCheck]
```

2. UpdateUserDiscounts – po każdym zamówieniu sprawdza czy klient nabył prawa do zniżki

```
CREATE TRIGGER [UpdateUserDiscounts] ON [OrderDetails]
AFTER INSERT
AS
BEGIN
    SET NOCOUNT ON

    DECLARE @CustomerID int
    DECLARE @DiscountFTID int
    DECLARE @DiscountSTID int
    DECLARE @LastDiscountDate date
    DECLARE @Z1 decimal(10,2)
    DECLARE @K1 decimal(10,2)
    DECLARE @K2 decimal(10,2)

    SET @CustomerID =
    (SELECT O.[CustomerID] FROM [Inserted]
    INNER JOIN [Orders] AS O
    ON [Inserted].[OrderID] = O.[OrderID])

    IF EXISTS
    (
        SELECT [CustomerID] FROM [CustomerIndividuals]
        WHERE [CustomerID] = @CustomerID
    )
    BEGIN

        IF NOT EXISTS
        (
            SELECT [DiscountID] FROM [CustomerDiscountFT]
            WHERE [CustomerI] = @CustomerID
        )
        BEGIN

            SET @DiscountFTID =
            (
                SELECT [DiscountID] FROM [Discounts]
                WHERE [EndDate] IS NULL AND
                [DiscountType] = 1
            )
        END
    END
END
```

```

)
SET @Z1 = (
    SELECT DSD.[Value] FROM
    [DiscountSetDetails] AS DSD
    INNER JOIN [DiscountsSet] AS DS
    ON DS.[SetID] = DSD.[SetID]
    WHERE DSD.[DiscountID] = @DiscountFTID
    AND [SetName] = 'Z1'
)
SET @K1 = (
    SELECT DSD.[Value] FROM
    [DiscountSetDetails] AS DSD
    INNER JOIN [DiscountsSet] AS DS
    ON DS.[SetID] = DSD.[SetID]
    WHERE DSD.[DiscountID] = @DiscountFTID
    AND [SetName] = 'K1'
)

IF
(
    (SELECT COUNT(*) FROM [Orders] AS O
    WHERE O.[CustomerID] = @CustomerID AND
    (SELECT SUM([DishPrice] * [Quantity])
    FROM [OrderDetails]
    WHERE [OrderID] = O.[OrderID]
    GROUP BY [OrderID])) > @Z1
    GROUP BY O.[CustomerID])
    >= @Z1
)
BEGIN
    INSERT INTO
    [CustomerDiscountFT]([CustomerID],
    [DiscountID])
    VALUES (@CustomerID, @DiscountFTID)
END
END

UPDATE [CustomerDiscountsST]
SET [UseDate] = GETDATE() WHERE [UseDate] IS NULL
AND EXISTS
(SELECT DSD.[DiscountID] FROM [DiscountSetDetails]
AS DSD

```



```

INNER JOIN [DiscountsSet] AS DS ON
DS.[SetID] = DSD.[SetID]
WHERE DSD.[DiscountID] = [DiscountID]
AND [SetName] = 'D1' AND
DATEDIFF(DAY, [ReceivedDate], GETDATE()) > [Value]
)

IF NOT EXISTS
(
    SELECT [DiscountSTID]
    FROM [CustomerDiscountsST]
    WHERE [CustomerID] = @CustomerID
    AND [UseDate] IS NULL
)
BEGIN

    SET @LastDiscountDate=(
        SELECT TOP 1 [UseDate]
        FROM [CustomerDiscountsST]
        WHERE [CustomerID] = 2
        AND [UseDate] IS NOT NULL
        ORDER BY [UseDate] DESC
    )
    SET @DiscountSTID =
    (
        SELECT [DiscountID] FROM [Discounts]
        WHERE [EndDate] IS NULL
        AND [DiscountType] = 2
    )
    SET @K2 = (
        SELECT DSD.[Value]
        FROM [DiscountSetDetails] AS DSD
        INNER JOIN [DiscountsSet] AS DS
        ON DS.[SetID] = DSD.[SetID]
        WHERE DSD.[DiscountID] = @DiscountFTID
        AND [SetName] = 'K2'
    )

    IF
    (

```

```

        (SELECT SUM(Sumy.suma) FROM (
        SELECT (SELECT
        SUM(OD.[DishPrice] * OD.[Quantity])
        FROM [OrderDetails] AS OD
        WHERE OD.[OrderID] = O.[OrderID]
        GROUP BY OD.[OrderID]) AS suma,
        O.[CustomerID] AS Customer
        FROM [Orders] AS O
        WHERE O.[CustomerID] = 2 AND
        O.[OrderDate] >
        ISNULL('2021-04-04', '1980-01-01')
        GROUP BY O.[CustomerID], O.[OrderID])
        AS Sumy
        GROUP BY Sumy.[Customer]) > @K2
    )
BEGIN
    INSERT INTO
    [CustomerDiscountsST]([CustomerID],
    [DiscountID])
    VALUES (@CustomerID, @DiscountSTID)
END
END
END
END
GO

ALTER TABLE [OrderDetails] ENABLE TRIGGER [UpdateUserDiscounts]

```

10. Indeksy

1. **Categories** – [CategoryName]

```
CREATE NONCLUSTERED INDEX [Category_Index] ON [Categories]
([CategoryName] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

2. **Cities** – [CityName]

```
CREATE NONCLUSTERED INDEX [Cities_Index] ON [Cities]
([CityName] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

3. **CustomerDiscountFT** – [ReceivedDate]

```
CREATE NONCLUSTERED INDEX [CustomerDiscountFT_Index]
ON [CustomerDiscountFT]
([ReceivedDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

4. **CustomerDiscountST** – [ReceivedDate], [UseDate], [CustomerID]

```
CREATE NONCLUSTERED INDEX [CustomerDiscountsST_Index]
ON [CustomerDiscountsST]
([ReceivedDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [CustomerDiscountsST_Index_1]
ON [CustomerDiscountsST]
([UseDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [CustomerDiscountsST_Index_2]
ON [CustomerDiscountsST]
([CustomerID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

5. CustomerFirms – [NIP], [CompanyName]

```
CREATE NONCLUSTERED INDEX [CustomerFirms_Index] ON [CustomerFirms]
([NIP] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [CustomerFirms_Index_1]
ON [CustomerFirms]
([CompanyName] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

6. CustomerFirmsEmployees – [FirmID]

```
CREATE NONCLUSTERED INDEX [CustomerFirmsEmployees_Index]
ON [CustomerFirmsEmployees]
([FirmID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

7. Customers – [Phone]

```
CREATE NONCLUSTERED INDEX [Customers_Index] ON [Customers]
([Phone] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

8. DiscountsSet – [SetName]

```
CREATE NONCLUSTERED INDEX [DiscountsSet_Index] ON [Discounts]
([SetName] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

9. Dishes – [DishName], [CategoryID]

```
CREATE NONCLUSTERED INDEX [Dishes_Index] ON [Dishes]
([DishName] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [Dishes_Index_1] ON [Dishes]
([CategoryID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

10. **DishesHistory** – [DishID], [InMenuDate], [OutMenuDate]

```
CREATE NONCLUSTERED INDEX [DishesHistory_Index] ON [DishesHistory]
([DishID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [DishesHistory_Index_1]
ON [DishesHistory]
([InMenuDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [DishesHistory_Index_2]
ON [DishesHistory]
([OutMenuDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

11. **Employees** – [Phone]

```
CREATE NONCLUSTERED INDEX [Employees_Index] ON [Employees]
([Phone] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

12. **Orders** – [CustomerID], [ReceiveDate], [OrderDate]

```
CREATE NONCLUSTERED INDEX [Orders_Index] ON [Orders]
([CustomerID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [Orders_Index_1] ON [Orders]
([ReceiveDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [Orders_Index_2] ON [Orders]
([OrderDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

13. **PaymentType** – [PaymentName]

```
CREATE NONCLUSTERED INDEX [PaymentType_Index] ON [PaymentType]
([PaymentName] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```


14. Reservations – [ReservationDate]

```
CREATE NONCLUSTERED INDEX [Reservations_Index] ON [Reservations]
([ReservationDate] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

15. ReservationsFirms – [FirmID]

```
CREATE NONCLUSTERED INDEX [ReservationsFirms_Index]
ON [ReservationsFirms]
([FirmID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

16. ReservationsFirmsDetails – [ReservationID], [TableID]

```
CREATE NONCLUSTERED INDEX [ReservationsFirmsDetails_Index]
ON [ReservationsFirmsDetails]
([ReservationID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [ReservationsFirmsDetails_Index_1]
ON [ReservationsFirmsDetails]
([TableID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

17. ReservationsFirmsEmployees – [TableID]

```
CREATE NONCLUSTERED INDEX [ReservationsFirmsEmployees_Index]
ON [ReservationsFirmsEmployees]
([TableID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

18. **ReservationsIndividuals** – [TableID], [CustomerID], [OrderID]

```
CREATE NONCLUSTERED INDEX [ReservationsIndividuals_Index]
ON [ReservationsIndividuals]
([TableID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [ReservationsIndividuals_Index_1]
ON [ReservationsIndividuals]
([CustomerID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

```
CREATE NONCLUSTERED INDEX [ReservationsIndividuals_Index_2]
ON [ReservationsIndividuals]
([OrderID] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
SORT_IN_TEMPDB = OFF, DROP_EXISTING = OFF, ONLINE = OFF,
ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON)
ON [PRIMARY]
```

11. Uprawnienia użytkowników:

1. Administrator systemu

- Dostęp do wszystkich danych
- Dodawanie/usuwanie/edytowanie danych

2. Menadżer restauracji

- Generowanie raportów
 - ❖ Dotyczących rezerwacji stolików
 - ❖ Dotyczących zamawianych dań
 - ❖ Dotyczących pory zamawiania dań
 - ❖ Dotyczących firm/klientów indywidualnych
 - ❖ Dotyczących przyznawanych zniżek
- Dodawanie pracowników
- Ustawianie progów rabatowych
- Dodawanie i edytowanie dań w bazie
- Dodawanie i edytowanie kategorii dań
- Zarządzanie menu
 - ❖ Dodawanie/usuwanie pozycji w menu
 - ❖ Aktualizacja menu
 - ❖ Aktualizacja cen dań

3. Pracownik restauracji

- Przyjmowanie zamówień na miejscu
- Przyjmowanie płatności
- Wydawanie zamówień
- Akceptowanie rezerwacji i przydzielanie stolików
- Dostęp do podglądu zarezerwowanych stolików
- Możliwość założenia konta klientowi

4. Klient firmowy

- Składanie zamówień online
- Przeglądanie menu
- Składanie rezerwacji
 - ❖ Dla całej firmy
 - ❖ Dla konkretnych pracowników

5. Klient prywatny (klient indywidualny)

- Tworzenie konta online
- Składanie zamówień online
- Składanie rezerwacji (po spełnieniu odpowiednich warunków)
- Przeglądanie menu

6. System

- Naliczanie rabatów
- Usuwanie i dodawanie dania z menu.
- Aktualizacja daty ostatniego pobytu dania w menu
- Generowanie backupu
- Blokada możliwości zamawiania dań z owocami morza po upływie poniedziałku poprzedzającego dni czwartek, piątek, sobota tego samego tygodnia
- Monitorowanie i aktualizacja stanu magazynu
- Generowanie wiadomości do klientów i pracowników