STORED PROCEDURES : DATABASES :: FUNCTIONS : CODE

STORED PROCEDURES : DATABASES :: FUNCTIONS : CODE

GROUP A BUNCH OF SQL COMMANDS INTO A UNIT, AND GIVE IT A NAME

CALL THIS AS A UNIT, AND PASS IT PARAMETERS

STORED PROCEDURES : DATABASES :: FUNCTIONS : CODE

GROUP A BUNCH OF SQL COMMANDS INTO A UNIT, AND GIVE IT A NAME

CALL THIS AS A UNIT, AND PASS IT PARAMETERS

NOW SQL IS BY-AND-LARGE A DECLARATIVE LANGUAGE

STORED PROCEDURES : DATABASES :: FUNCTIONS : CODE

GROUP A BUNCH OF SQL COMMANDS INTO A UNIT, AND GIVE IT A NAME

CALL THIS AS A UNIT, AND PASS IT PARAMETERS

NOW SQL IS BY-AND-LARGE A DECLARATIVE LANGUAGE

BUT STORED PROCEDURES ARE, WELL, PROCEDURAL ;-)

STORED PROCEDURES : DATABASES :: FUNCTIONS : CODE

GROUP A BUNCH OF SQL COMMANDS INTO A UNIT, AND GIVE IT A NAME

CALL THIS AS A UNIT, AND PASS IT PARAMETERS

NOW SQL IS BY-AND-LARGE A DECLARATIVE LANGUAGE

BUT STORED PROCEDURES ARE, WELL, PROCEDURAL ;-)

STORED PROCEDURES HAVE ALL THE ADVANTAGES OF FUNCTIONS

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
    @YEAR INT IN,
    @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
      @YEAR INT IN,
      @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

NAME

SPECIFY THE NAME AND PARAMETERS, JUST LIKE WITH A FUNCTION

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
      @YEAR INT IN,
      @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

PARAMETER NAME, PRECEDED BY ‘@’

SPECIFY THE NAME AND PARAMETERS, JUST LIKE WITH A FUNCTION

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
      @YEAR INT IN,
      @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

THIS IS AN IN PARAMETER

SPECIFY THE NAME AND PARAMETERS, JUST LIKE WITH A FUNCTION

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
    @YEAR INT IN,
    @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

PARAMETER NAME, PRECEDED BY '@'

SPECIFY THE NAME AND PARAMETERS, JUST LIKE WITH A FUNCTION

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
      @YEAR INT IN,
      @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

THIS IS AN OUT PARAMETER

SPECIFY THE NAME AND PARAMETERS, JUST LIKE WITH A FUNCTION

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
    @YEAR INT IN,
    @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

THE STORED PROC BODY, BETWEEN THE BEGIN AND END

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
    @YEAR INT IN,
    @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

THE BODY IS PRETTY USUAL, EXCEPT FOR THE WAY THE PARAMETERS ARE USED

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
    @YEAR INT IN,
    @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
    Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

THE OUT PARAMETERS MUST BE ASSIGNED IN THE BODY

THE BODY IS PRETTY USUAL, EXCEPT FOR THE WAY THE PARAMETERS ARE USED

CREATING A STORED PROCEDURE

```
CREATE PROCEDURE GetAnnualRevenue (
    @YEAR INT IN,
    @REVENUE DEC(10,2) OUT
)
AS
BEGIN
SELECT
  YEAR(DATE), @REVENUE = SUM(REVENUE)
FROM
   Sales_Data
WHERE
  YEAR(Date) = @YEAR
GROUP BY
  YEAR(Date)
END
```

THE IN PARAMETERS CAN BE USED LIKE CONSTANTS

THE BODY IS PRETTY USUAL, EXCEPT FOR THE WAY THE PARAMETERS ARE USED

CALLING A STORED PROCEDURE

```
DECLARE Revenue DEC(10,2);
EXEC GetAnnualRevenue @YEAR 2015,
     @REVENUE Revenue;
```

CALLING A STORED PROCEDURE

DECLARE ANY VARIABLES YOU NEED TO

```
DECLARE Revenue DEC(10,2);
EXEC GetAnnualRevenue @YEAR 2015,
     @REVENUE Revenue;
```

CALLING A STORED PROCEDURE

CALL THE STORED PROC USING THE EXEC COMMAND

```
DECLARE Revenue DEC(10,2);
EXEC GetAnnualRevenue @YEAR 2015,
     @REVENUE Revenue;
```

CALLING A STORED PROCEDURE

```
DECLARE Revenue DEC(10,2);
EXEC GetAnnualRevenue @YEAR 2015,
     @REVENUE Revenue;
```

YOU CAN EXPLICITLY TAG EACH PARAMETER WITH THE NAME

CALLING A STORED PROCEDURE

```
DECLARE Revenue DEC(10,2);
EXEC GetAnnualRevenue @YEAR 2015,
     @REVENUE Revenue;
```

YOU CAN EXPLICITLY TAG EACH PARAMETER WITH THE NAME