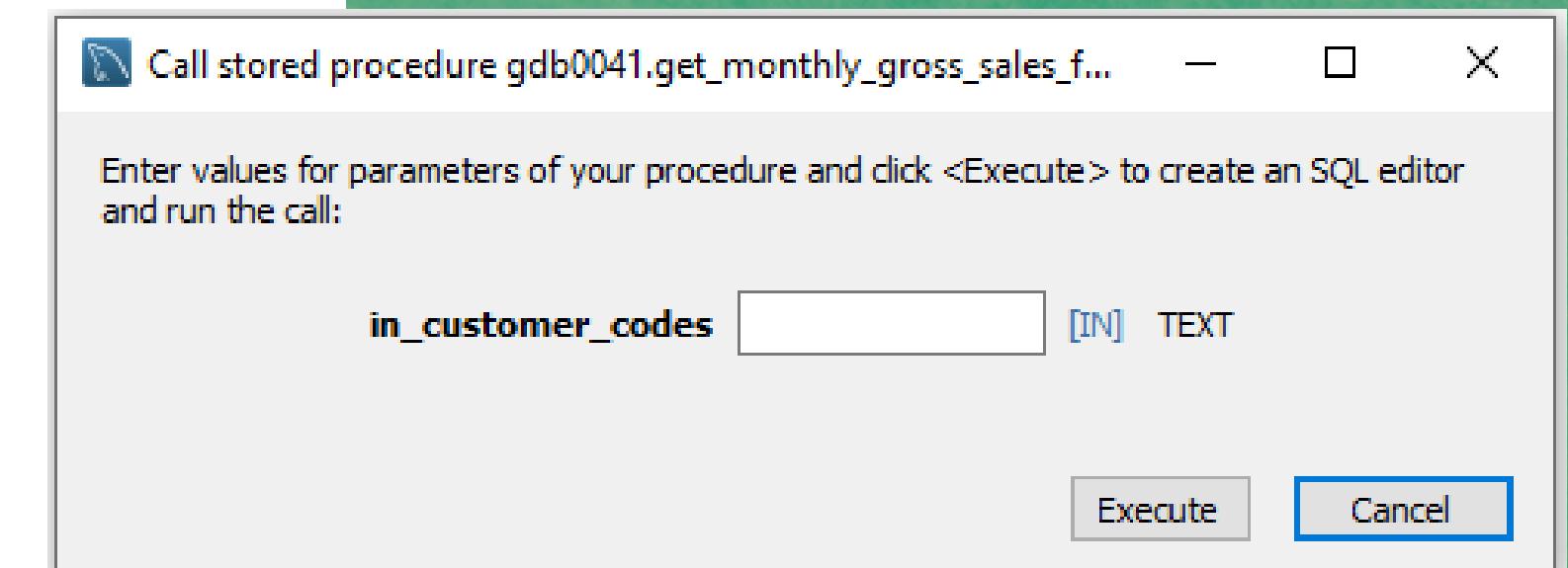


```
# Creating A Function For Fiscal Year
CREATE DEFINER=`root`@`localhost` FUNCTION `get_fiscal_year`(
    calendar_date date
) RETURNS int
    DETERMINISTIC
BEGIN
    declare fiscal_year int;
    set fiscal_year= year(date_add(calendar_date, interval 4 month));
    return fiscal_year ;
END
```

```
# Creating Function For Fiscal Quater
CREATE DEFINER=`root`@`localhost` FUNCTION `get_fiscal_quater`(
    calendar_date date
) RETURNS char(2) CHARSET utf8mb4
    DETERMINISTIC
BEGIN
    declare m tinyint;
    declare qtr char(3);
    set m = month(calendar_date);
    CASE
        WHEN m in (9,10,11) then set qtr="Q1";
        WHEN m in (12,1,2) then set qtr="Q2";
        WHEN m in (3,4,5) then set qtr="Q3";
        else set qtr="Q4";
    end case;
    RETURN qtr;
END
```

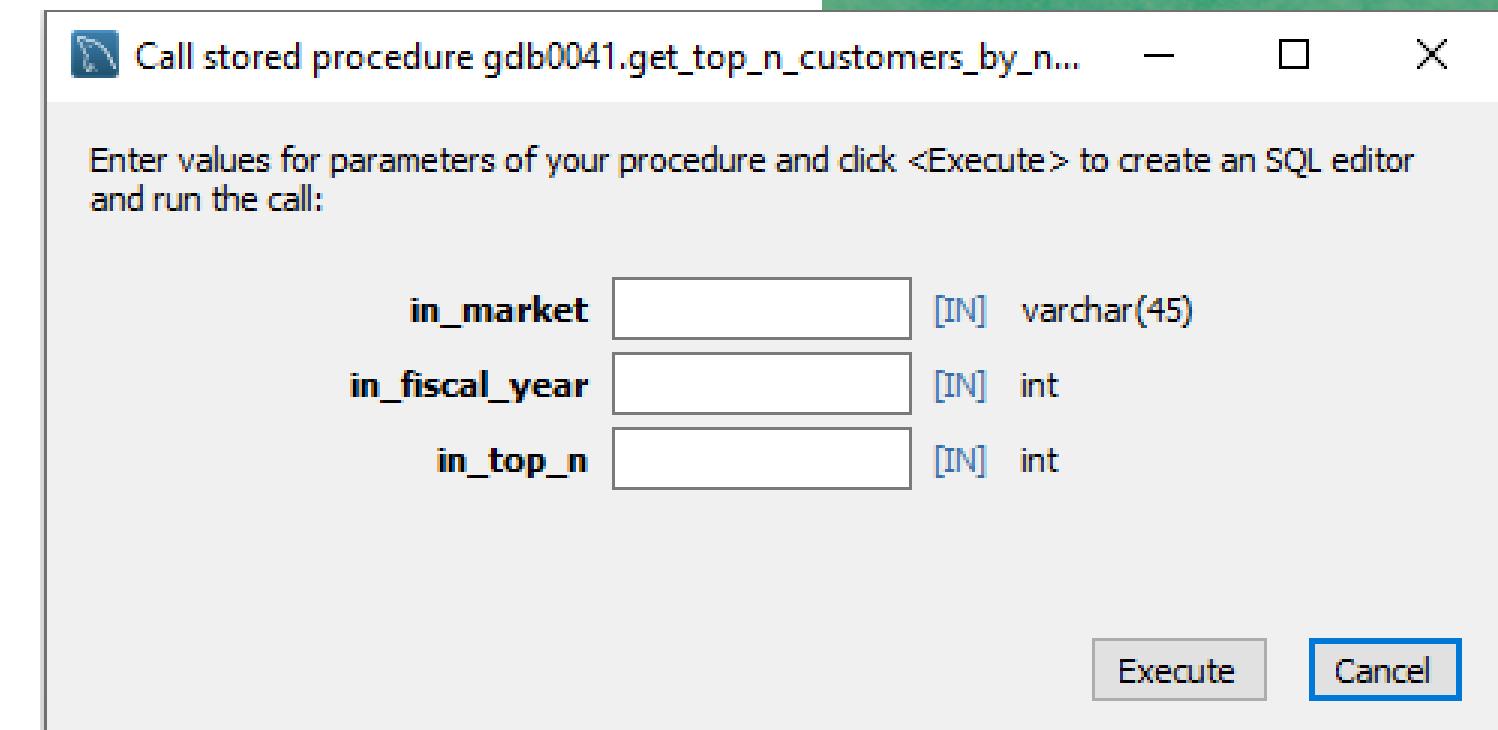
```
# Generate monthly gross sales report for customer using stored procedure
CREATE DEFINER=`root`@`localhost` PROCEDURE `get_monthly_gross_sales_for_customer`(
    in_customer_codes TEXT
)
BEGIN
    SELECT
        s.date,
        SUM(ROUND(s.sold_quantity*g.gross_price,2)) as monthly_sales
    FROM fact_sales_monthly s
    JOIN fact_gross_price g
        ON g.fiscal_year=get_fiscal_year(s.date)
        AND g.product_code=s.product_code
    WHERE
        FIND_IN_SET(s.customer_code, in_customer_codes) > 0
    GROUP BY s.date
    ORDER BY s.date DESC;
END
```



```
# Creating Stored Procedure to generate report for Top-N customers by Net sales

CREATE DEFINER=`root`@`localhost` PROCEDURE `get_top_n_customers_by_net_sales`(
in_market varchar(45),
in_fiscal_year int,
in_top_n int)

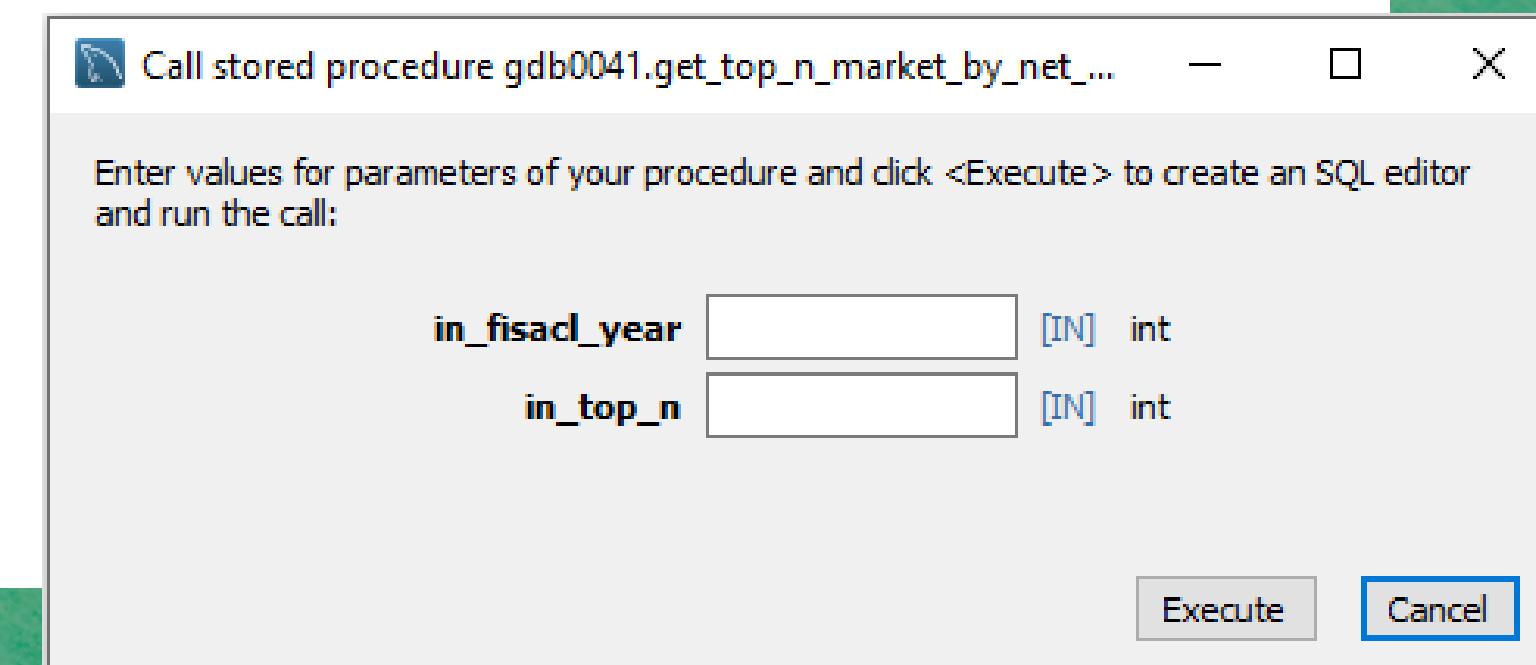
BEGIN
    SELECT
        c.customer,
        round(sum(net_sales)/1000000,2) as net_sales_mln
    FROM gdb0041.net_sales n
    join dim_customer c
    on n.customer_code=c.customer_code
    where fiscal_year = in_fiscal_year and n.market=in_market
    group by c.customer
    order by net_sales_mln desc
    limit in_top_n ;
END
```



```

# Creating Stored Procedure to generate report for Top-N Market by Net sales
CREATE DEFINER=`root`@`localhost` PROCEDURE `get_top_n_market_by_net_sales`(
in_fisac1_year int,
in_top_n int
)
BEGIN
    SELECT
        market,
        round(sum(net_sales)/1000000,2) as net_sales_mln
    FROM gdb0041.net_sales
    where fiscal_year = in_fisac1_year
    group by market
    order by net_sales_mln desc
    limit in_top_n;
END

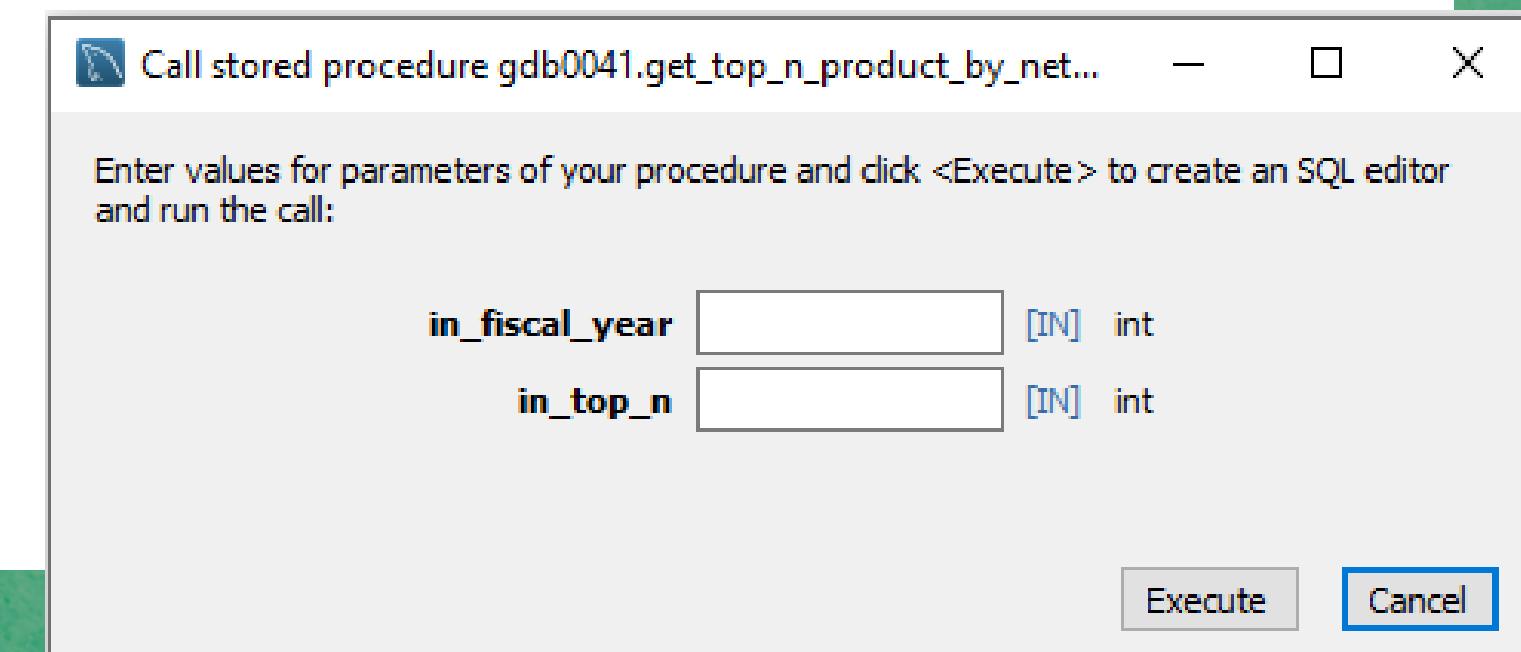
```



```

# Creating Stored Procedure to generate report for Top-N Product by Net sales
CREATE DEFINER=`root`@`localhost` PROCEDURE `get_top_n_product_by_net_sales`(
    in_fiscal_year int,
    in_top_n int
)
BEGIN
SELECT
product,
round(sum(net_sales)/1000000,2) as net_sales_mln
FROM gdb0041.net_sales
where fiscal_year = in_fiscal_year
group by product
order by net_sales_mln desc
limit in_top_n;
END

```



## # Implementing User-Defined SQL Functions

```
SELECT * FROM fact_sales_monthly  
WHERE  
    customer_code=90002002 AND  
    get_fiscal_year(date)=2021  
ORDER BY date asc;
```

	date	fiscal_year	product_code	customer_code	sold_quantity
▶	2020-09-01	2021	A0118150101	90002002	202
	2020-09-01	2021	A0118150102	90002002	162
	2020-09-01	2021	A0118150103	90002002	193
	2020-09-01	2021	A0118150104	90002002	146
	2020-09-01	2021	A0219150201	90002002	149
	2020-09-01	2021	A0219150202	90002002	107
	2020-09-01	2021	A0220150203	90002002	123
	2020-09-01	2021	A0320150301	90002002	146
	2020-09-01	2021	A0321150302	90002002	236
	2020-09-01	2021	A0321150303	90002002	137