CREATE DATABASE DB\_BASIC\_OBJECTS

USE DB\_BASIC\_OBJECTS

CREATE TABLE EMP\_INFO

(

EMP\_ID INT PRIMARY KEY, EMP\_FNAME VARCHAR (30), EMP\_CNTRY CHAR(50), EMP\_SAL BIGINT

)

INSERT EMP\_INFO VALUES (1001, 'AMIN', 'CANADA', 45678) , ('1002', 'JOHN', 'CANADA', 643643)

INSERT EMP\_INFO VALUES (1003, 'SAI', 'INDIA', 36363), (1004, 'SAISHA', 'INDIA',20000)

INSERT EMP\_INFO VALUES (1005, 'SAISH', 'INDIA', 43643), (1006, 'ADAM', 'USA', NULL)

SELECT \* FROM EMP\_INFO

-- EXAMPLE 1: USER DEFINED VIEWS

CREATE VIEW VW\_INDIA\_EMPLOYEES

AS

SELECT \* FROM EMP\_INFO WHERE EMP\_CNTRY = 'INDIA'

-- TO ACCESS ABOVE VIEW

SELECT \* FROM VW\_INDIA\_EMPLOYEES

-- IMPORTANT SYSTEM VIEWS : FOR METADATA [SYSTEM INFORMATION] AUDITS

-- THESE SYSTEM VIEWS ARE AUTO CREATED DURING DATABASE CREATION ITSELF IN PRIMARY DATA FILE.

SELECT \* FROM SYS.DATABASES -- TO REPORT LIST OF ALL DATABASES IN THE SERVER

SELECT \* FROM SYS.SCHEMAS -- TO REPORT LIST OF ALL SCHEMAS IN THE DATABASE

SELECT \* FROM SYS.TABLES -- TO REPORT LIST OF ALL TABLES IN THE DATABASE

SELECT \* FROM SYS.INDEXES -- TO REPORT LIST OF ALL INDEXES IN THE DATABASE

SELECT \* FROM SYS.OBJECTS -- TO REPORT LIST OF ALL OBJECTS IN THE DATABASE

SELECT \* FROM INFORMATION\_SCHEMA.COLUMNS -- TO REPORT LIST OF ALL COLUMNS IN THE TABLES & VIEWS IN THE DATABASE

**-- 'USER DEFINED FUNCTIONS'**

-- EXAMPLE 2: USER DEFINED FUNCTIONS

-- REQUIREMENT : GIVEN A COUNTRY VALUE, WE NEED TO REPORT LIST OF ALL EMPLOEES IN THAT COUNTRY?

CREATE FUNCTION FN\_REPORT\_EMPLOYEES (@Country varchar(30)) -- @Country is a PARAMETER

RETURNS table

AS

RETURN ( SELECT \* FROM EMP\_INFO WHERE EMP\_CNTRY = @Country)

-- TO ACCESS ABOVE FUNCTION

SELECT \* FROM FN\_REPORT\_EMPLOYEES('INDIA')

SELECT \* FROM FN\_REPORT\_EMPLOYEES('USA')

SELECT \* FROM FN\_REPORT\_EMPLOYEES('CANADA')

SELECT \* FROM DBO.FN\_REPORT\_EMPLOYEES('CANADA')

-- IMPORTANT SYSTEM FUNCTIONS : FOR METADATA [SYSTEM INFORMATION] AUDITS

SELECT DB\_NAME() -- REPORTS CURRENTLY CONNECTED DATABASE NAME

SELECT DB\_ID() -- REPORTS CURRENTLY CONNECTED DATABASE ID

SELECT DB\_NAME(16) -- REPORTS DATABASE NAME FOR A GIVEN DATABASE ID

SELECT DB\_ID('AUDIT\_DATABASE') -- REPORTS DATABASE ID FOR A GIVEN DATABASE NAME

SELECT OBJECT\_ID('EMP\_INFO') -- REPORTS OBJECT ID FOR A GIVEN OBJECT NAME

SELECT OBJECT\_NAME(581577110) -- REPORTS OBJECT NAME FOR A GIVEN OBJECT ID

SELECT GETDATE() -- REPORTS TODAY'S DATE & TIME

SELECT @@SERVERNAME -- REPORTS THE CURRENTLY CONNECTED SERVER NAME

SELECT @@VERSION -- REPORTS VERSION, EDITION OF THE CONNECTED SQL SERVER

**-- 'STORED PROCEDURES'**

-- EXAMPLE 3: USER DEFINED PROCEDURES (STORED PROCEDURES)

CREATE PROCEDURE SP\_REPORT\_EMPLOYEES (@Country varchar(30))

AS

SELECT \* FROM EMP\_INFO WHERE EMP\_CNTRY = @Country

-- UNLIKE FUNCTIONS, THE STORED PROCEDURES [SPs or SPROCs or PROCs] ARE PRECOMPILED, PRE-OPTIMIZED.

-- MEANS, THE QUERY SPECIFIED IN THE PROCEDURE DEFINITION IS COMPILED AND STORED IN THE DATABASE. ALSO, THE EXECUTION PLAN IS GENEERATED AND STORED BY QUERY OPTIMIZER.

-- TO ACCESS ABOVE STORED PROCEDURE

EXEC SP\_REPORT\_EMPLOYEES 'INDIA'

EXEC SP\_REPORT\_EMPLOYEES 'USA'

EXEC SP\_REPORT\_EMPLOYEES 'CANADA'

-- IMPORTANT SYSTEM PROCEDURES : FOR METADATA [SYSTEM INFORMATION] AUDITS

EXEC SP\_HELPDB -- TO REPORT LIST OF ALL DATABASES IN THE SERVER

EXEC SP\_HELP -- TO REPORT LIST OF ALL OBJECTS IN THE DATABASE

EXEC SP\_HELP'EMP\_INFO' -- TO REPORT DEFINITION OF THE GIVEN OBJECT [TABLE]

EXEC SP\_HELPINDEX 'EMP\_INFO' -- TO REPORT ALL INDEXES OF THE GIVEN TABLE

EXEC SP\_PKEYS 'EMP\_INFO' -- TO REPORT PRIMARY KEY INFORMATION OF THE GIVEN TABLE

EXEC SP\_DEPENDS 'EMP\_INFO' -- TO REPORT ALL DEPENDANCIES ON THE GIVEN TABLE

EXEC SP\_RENAME 'NEW\_TABLE\_NAME', 'EMP\_INFO' -- RENAME A TABLE OR DB OBJECT

EXEC SP\_RECOMPILE 'SP\_REPORT\_EMPLOYEES' -- RECOMPILE THE QUERY

EXEC SP\_HELPTEXT 'SP\_REPORT\_EMPLOYEES' -- REPORT DEFINITION OF PROCEDURE