```
                                        --DEMO-2--
--tinyint (0-255) -> 1byte
--smallint (-32768 to 32767) -> 2byte
--int (-214 crore to +214 crore) -> 4 byte
--bigint(-9 quintillion to +9 quintillion) -> 8byte
--float (15 digits) -> 8byte
--decimal :
    --0 to 9 -> 5byte
    --10 to 19 -> 9byte
    --20 to 28 -> 13byte
    --29 to 38 -> 17byte
--char (range 1 to 8000) - fixed data length
    --> 1byte each character
--varchar (range 1 to 8000) - variable data length
    --> 1byte each character
--Unicode:
--Nchar (range 1 to 4000) - fixed data length
    --> 2byte each character
--Nvarchar (range 1 to 4000) - variable data length
    --> 2byte each character

--CODE:(1)
declare @number int
set @number=1234550
print @number
select @number as Number, Datalength(@number) as Byte
--CODE:(2)
declare @unique Nvarchar(max) = N'qrodnaoowej djaoqjx ndweo owqodn'
select @unique as Number, datalength(@unique) as Byte
--CODE:(3)
declare @decim decimal(10,2)
set @decim = 12345.8015
select @decim as Decimal_number, datalength(@decim) as Byte

--#############################################################################

                                    --DEMO-3--
--DDL(DATA DEFINITION LANGUAGE):
  --Used to build and modify the structure of the table
  --simply say, it can change table structure
  --(DDL commants:Create, Alter, Drop, Truncate, Use)

--CREATE:
  -- CODE:(1)
          CREATE DATABASE data_base_name
          Use data_base_name
  -- CODE:(2)
          CREATE TABLE table_name
           ( column_name1 datatype,
             column_name2 datatype,...)

--ALTER:
```

```
    --CODE:(1) --ADD NEW COLUMN
          ALTER TABLE table_name
          ADD column_name data_type
    --CODE:(2) --DROP A COLUMN
          ALTER TABLE table_name
          DROP COLUMN column_name
    --CODE:(3) --MODIFY DATATYPE
          ALTER TABLE table_name
          ALTER COLUMN column_name new_datatype
    --CODE:(4) --CHANGE/MODIFY DATABASE NAME
          ALTER DATABASE database_name
          MODIFY NAME = new_database_name

--DROP:
    --CODE:(1) --DROP A COLUMN
          ALTER TABLE table_name
          DROP COLUMN column_name
    --CODE:(2) --DROP TABLE
          DROP TABLE table_name
    --CODE:(3) --DROP DATABASE
          DROP DATABASE database_name

-- NOTE:
    --CODE:(1) --CHANGE COLUMN NAME
         EXEC SP_RENAME 'table_name.column_name', 'new_col_name','COLUMN'
    --CODE:(2) --CHANGE TABLE NAME
         EXEC SP_RENAME 'table_name','new_table_name'

--TRUNCATE:
    --CODE:(1) --DELETE ALL RECORDS
         TRUNCATE TABLE table_name

--DML (DATA MANIPULATION LANSGUAGE)
    -- Used to work with the data in tables
    -- (DML commands: SELECT, INSERT, UPDATE, DELETE, MERGE...)

--SELECT:
    --CODE:(1)
         SELECT *FROM table_name
         --(show all column)
    --CODE:(2)
         SELECT COL_NAME1, COL_NAME3 FROM table_name
         --(only show column 1 and 3 output)

--INSERT:
    --CODE:(1)
          INSERT INTO table_name VALUES
          -- (...),(...),(...),...

--UPDATE:
    --CODE:(1)
         UPDATE table_name
```

```
        SET col_name3='ENTER NEW DATA', col_name4='ENTER NEW DATA'
        WHERE col_name1='ENTER DATA'
        --EXAMPLE:
          --UPDATE hr
          --SET empname = 'Rahil', gender='male'
          --where empid=106
          --(106th records empname and gender updated)

--DELETE: (DELETE SINGLE OR MULTIPLE RECORDS)
    --CODE:(1)
        DELETE FROM table_name
        WHERE col_name1='enter data'
        --EXAMPLE:(1)
           --DELETE FROM hr
           --WHERE id=102
        --EXAMPLE:(2)
           --DELETE FROM hr
           --WHERE id in (101, 105, 110, 139)
        --EXAMPLE:(3)
           --DELETE FROM table_name (delete all records)

--*************************************************************************

--NOTE:(IF WE WANT TO KNOW RECORD'S DELETING TIME)
  --CODE:(1)
--TAKE EXAMPLE:
  --INSERT INTO table_name VALUES (...)
  --SELECT*FROM table_name
DECLARE @start_time DATATIME2=SYSDATETIME();

DELETE FROM table_name

DECLARE @end_time DATATIME2=SYSDATETIME();

SELECT 'Time taken to Delete:' +convert(VARCHAR(20), DATEDIFF(MILLISECOND,
  @start_time,@end_time))
              +'milliseconds';

--give output like: --> Time taken to Delete: 37 milliseconds
--NOTE: Similarly used for TRUNCATE command

--
  ##########################################################################################
  ###########

                                    --DEMO-4--

--FILTER:
  --Used for filter records./Find require records.
  --Commands: =, != / <>, >, >=, <, <=
            --in, not in, WHERE col_name BETWEEN val1 and val2
            -- IS NULL, IS NOT NULL
```

```
     --EXAMPLE:
         SELECT*FROM hr
         WHERE hid IN (1,5,13)
         --(ONLY SHOW 1,5 AND 13TH RECORDS)

         SELECT*FROM hr
         WHERE hid NOT IN (3, 4, 14)
         --(ALL RECORDS ARE SHOWN EXCEPT 3,4 AND 14TH RECORDS)

--WHERE LIKE%:
   --EXAMPLE:
       SELECT*FROM hr
       WHERE ename LIKE 'E%' OR ename LIKE 'S%' OR salary LIKE '5____'

--ORDER BY:
   --EXAMPLE:
       SELECT*FROM hr
       where hid in (5,7,13)
       ORDER BY salary
```