

--Task 1

--creating the database storage and log file in different location

```
CREATE DATABASE temp_database
ON
(
    NAME = temp_db_Data,
    FILENAME = 'C:\Users\Public\change_db_location\temp_db.mdf', -- Data file ↗
    path
    SIZE = 10MB, -- Initial size
    MAXSIZE = 100MB, -- Max size
    FILEGROWTH = 5MB -- Growth increment
)
LOG ON
(
    NAME = temp_db_Log,
    FILENAME = 'C:\Users\Public\change_db_location\temp_db.ldf', -- Log file ↗
    path
    SIZE = 5MB,
    MAXSIZE = 50MB,
    FILEGROWTH = 2MB
);

use temp_database;

create table temp( test int);
select * from temp;
```

--Task 2

--change the location of existing database log and data file

```
SELECT name, physical_name
FROM sys.master_files
WHERE database_id = DB_ID('temp_database');

ALTER DATABASE temp_database SET SINGLE_USER WITH ROLLBACK IMMEDIATE;

--detach the database manually
--manually change the location of the file
```

```
CREATE DATABASE temp_database
ON
( FILENAME = 'C:\Users\Public\change_db_location\change_db_location2
  \temp_db.mdf' )
LOG ON
( FILENAME = 'C:\Users\Public\change_db_location\change_db_location2
  \temp_db.ldf' )
FOR ATTACH;
```

```
ALTER DATABASE temp_database SET MULTI_USER;
```

```
SELECT name, physical_name
FROM sys.master_files
WHERE database_id = DB_ID('temp_database');
```

```
--Task 3
--storing more data than the allocated size
USE temp_database;
```

```
select count(*) from temp;
alter table temp add test_3 int;
```

```
insert into temp
select * from temp;
--262144 rows were inserted
```

```
--Task 4
--changing into single user
ALTER DATABASE CompanyDB SET SINGLE_USER WITH ROLLBACK IMMEDIATE;
```

```
--changing into multi user
ALTER DATABASE companyDB SET MULTI_USER;
```

```
--Task 5
--creating data files on multiple locations
-- Create a new database with multiple data files
CREATE DATABASE CompanyDB
ON
-- Primary File (Default Storage)
PRIMARY
(
    NAME = 'CompanyDB_Primary',
    FILENAME = 'C:\Users\Public\change_db_location\CompanyDB_Primary.mdf',
    SIZE = 20MB,
    MAXSIZE = 500MB,
    FILEGROWTH = 10MB
),
```

```
-- Finance File Group
FILEGROUP FinanceGroup
(
    NAME = 'CompanyDB_Finance1',
    FILENAME = 'C:\Users\Public\change_db_location\change_db_location2
    \CompanyDB_Finance1.ndf',
    SIZE = 20MB,
    MAXSIZE = 300MB,
    FILEGROWTH = 5MB
),
```



```
(
    NAME = 'CompanyDB_Finance2',
    FILENAME = 'C:\Users\Public\change_db_location\location3
               \CompanyDB_Finance2.ndf',
    SIZE = 20MB,
    MAXSIZE = 300MB,
    FILEGROWTH = 5MB
),

-- HR File Group
FILEGROUP HRGroup
(
    NAME = 'CompanyDB_HR1',
    FILENAME = 'C:\Users\Public\change_db_location\location4\CompanyDB_HR1.ndf',
    SIZE = 20MB,
    MAXSIZE = 300MB,
    FILEGROWTH = 5MB
),
(
    NAME = 'CompanyDB_HR2',
    FILENAME = 'C:\Users\Public\change_db_location\location5\CompanyDB_HR2.ndf',
    SIZE = 20MB,
    MAXSIZE = 300MB,
    FILEGROWTH = 5MB
)

LOG ON
(
    NAME = 'CompanyDB_Log',
    FILENAME = 'C:\Users\Public\change_db_location\LogFiles\CompanyDB_Log.ldf',
    SIZE = 10MB,
    MAXSIZE = 200MB,
    FILEGROWTH = 5MB
);

--task 6
--storing the data in different file groups
--such as finance for finance file group and hr for hr finance
USE CompanyDB;
GO

CREATE TABLE FinanceData
(
    TransactionID INT PRIMARY KEY,
    Amount DECIMAL(18, 2),
    Department NVARCHAR(50)
) ON FinanceGroup; -- Store in FinanceGroup
```

```
CREATE TABLE HRData
(
    EmployeeID INT PRIMARY KEY,
    Name NVARCHAR(100),
    Salary DECIMAL(18, 2),
    Department NVARCHAR(50)
) ON HRGroup; -- Store in HRGroup
```