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--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;
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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
```