MISS-EXAM

Name		User-ID	
Date		Subject	UNIX
Marks	50	Duration	3 hrs

> ➢ Write your name & Date on every answer sheet.
> ➢ Write scripts on the answer sheet before logout.
> ➢ EXAM Login path: */home/VLSI/missad01USERS/EXAMS/UNIX_2/*
> ➢ Change to */home/VLSI/missad01USERS/EXAMS/UNIX_2/urExamID*
> ➢ Write script in directory *Q1.*

Q1). We have a data base directory *database_08Jun2023*, in which sub directory names are *spectre* & *timingLibs*. Spectre & timingLibrary directories have sub directories whose names are same as names of circuits. Names of the files in each circuit directory of *spectre* and *timingLibs* are *circuitName_pvtCorner.scs* & *circuitName_pvtCorners.lib* respectively. Circuit Names list & pvtCorners list is given below.

List of circuits:
1. Inv1x
2. Nand1x
3. Nor1x
4. Or1x
5. And1x
6. Dff1x
7. Lat1x
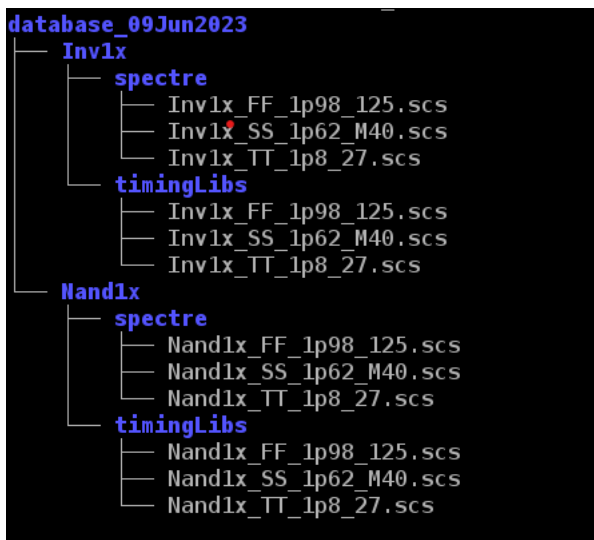8. Tran1x

List of pvtCorners:

1. TT_1p8_27
2. SS_1p62_M40
3. FF_1p98_125
4. SF_1p62_M40
5. SF_1p98_125
6. FS_1p62_M40
7. FS_1p98_125

Example directory structure is shown in below image just for 2 cells & 3 PVT corners. You may look into directory structure of *database_08Jun2023* in your EXAM login ID.

```
database_08Jun2023/
├── spectre
│   ├── Inv1x
│   │   ├── Inv1x_FF_1p98_125.scs
│   │   ├── Inv1x_SS_1p62_M40.scs
│   │   └── Inv1x_TT_1p8_27.scs
│   └── Nand1x
│       ├── Nand1x_FF_1p98_125.scs
│       ├── Nand1x_SS_1p62_M40.scs
│       └── Nand1x_TT_1p8_27.scs
└── timingLibs
    ├── Inv1x
    │   ├── Inv1x_FF_1p98_125.scs
    │   ├── Inv1x_SS_1p62_M40.scs
    │   └── Inv1x_TT_1p8_27.scs
    └── Nand1x
        ├── Nand1x_FF_1p98_125.scs
        ├── Nand1x_SS_1p62_M40.scs
        └── Nand1x_TT_1p8_27.scs

6 directories, 12 files
```

We need to develop shell script which will work on above database and produces new database in slightly different directory structure after performing some checks which are described below

1. C-shell script name: ***createDatabase.sh***
2. Script has two command line arguments. First one is the old database name, and the second one is new database name whose names are ***dataBase_08Jun2023*** & ***database_09Jun2023*** respectively.
3. Script should check if two command line arguments are provided or not. If two command line arguments are not provided, then it should stop executing script normally and indicate to the user that required number of command line arguments are not provided, and an example command for proper way of executing the script.
4. Check for existence of old database directory and if it is directory or file. If not present, notify the user and stop executing the script.
5. Check for existence of new database directory. If it is already present, then get approval(**Y**/**N**) from user whether to overwrite the directory or not. If user provides **N** response, then exit the script normally else removes the existing new database directory and creates new one.
6. Copy the all spectre and timingLibs files for all circuits from old database to new database as shown in the example image below


```
database_09Jun2023
├── Inv1x
│   ├── spectre
│   │   ├── Inv1x_FF_1p98_125.scs
│   │   ├── Inv1x_SS_1p62_M40.scs
│   │   └── Inv1x_TT_1p8_27.scs
│   └── timingLibs
│       ├── Inv1x_FF_1p98_125.scs
│       ├── Inv1x_SS_1p62_M40.scs
│       └── Inv1x_TT_1p8_27.scs
└── Nand1x
    ├── spectre
    │   ├── Nand1x_FF_1p98_125.scs
    │   ├── Nand1x_SS_1p62_M40.scs
    │   └── Nand1x_TT_1p8_27.scs
    └── timingLibs
        ├── Nand1x_FF_1p98_125.scs
        ├── Nand1x_SS_1p62_M40.scs
        └── Nand1x_TT_1p8_27.scs
```

Please note that, in the old database, ***spectre*** directory has all circuit directories and each sub directory with name circuit has corner files. But in the new database every circuit directory has spectre & timingLibs as sub directories.
Note : *Some circuit directories or some pvt corner files may be missing in old database directory.So below checks are needed while creating directories and copying files.*

7. Before creating directories, please check if all circuit directories that are listed above are present in the old database or not in both ***spectre & timingLibs*** directories. If some circuits are not present then indicate to the user the list of circuits missing and continue creating other directories.
8. While copying the files , check if every PVT corner that are listed above is present for the circuits that are available in the old database within both spectre & timingLibs directories. If any PVT corners are missing for any circuit, then indicate to the user and continue copying the available PVT corner files.
9. Command execution should be as shown below.

   %csh createDatabase.sh database_08Jun2023 database_09Jun2023

   ****************************ALL IS WELL*****************************