

CS 325 Week 1-2

Database processing and development

Today

- Database processing and development
- Simple Linux Commands

A little about databases, DBMSs, and application programs...

- what is a database?
 - it is a collection of tables, holding information about different interrelated **entities**

A little about databases, DBMSs, and application programs...

- what is an entity?
 - ...a set of something important in a world or scenario
 - What will be some examples of entity in a University setting
 - Students, classes, instructors, and so on.
 - ...an entity in a scenario will be represented by ONE OR MORE tables in a database
 - So a collection of tables information, pulling information about different interrelated entities

A little about databases, DBMSs, and application programs...

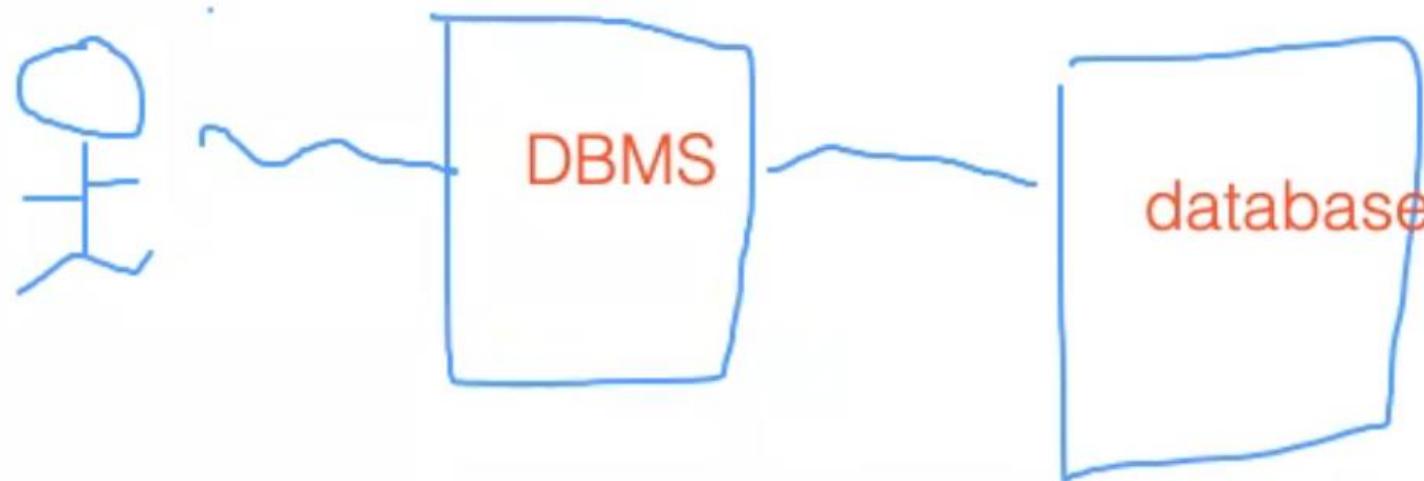
- what is a database?
 - what is a DBMS?
 - DataBase Management System
 - a DBMS is a program or collection of programs that acts as the INTERFACE between a user or application program and a database

A little about databases, DBMSs, and application programs...

- what is a database?

- what is a DBMS?

- DataBase Management System
 - a DBMS is a program or collection of programs that acts as the INTERFACE between a user or application program and a database



A little about databases, DBMSs, and application programs...

- what is a database?
 - what is a DBMS?
 - a DBMS is a program or collection of programs that acts as the INTERFACE between a user or application program and a database
 - What is an application program
 - Any program that is making use the data in the database, but not directly access the database, its gonna fo through the DBMS.

Question

Which of the following is NOT a Database Management System (DBMS)?

- A) MySQL
- B) PostgreSQL
- C) SQL
- D) Oracle

A little about databases, DBMSs, and application programs...

- what is a database?
 - what is a DBMS?
 - Oracle is an example of a DBMS. So are programs such as Microsoft Access and MySQL and Microsoft SQLServer and PostgreSQL.
 - be a little careful – SQL, stand for Structured query language, is a language often implemented and provided by a DBMS.

Question

Excel is an example of a database management system (DBMS)?

- A) True
- B) False

Connecting to nrs-projects and sqlplus - Mac



dl313 — dl313@nrs-projects:~ — -zsh — 80x24

dl313@CS-S34217 ~ % ssh dl313@nrs-projects-ssh.humboldt.edu



dl313 — dl313@nrs-projects:~ — ssh dl313@nrs-projects-ssh.humboldt.edu — 80x24

[dl313@CS-S34217 ~ % ssh dl313@nrs-projects-ssh.humboldt.edu
dl313@nrs-projects-ssh.humboldt.edu's password: 



dl313 — dl313@nrs-projects:~ — ssh dl313@nrs-projects-ssh.humboldt.edu — 80x24

```
[dl313@CS-S34217 ~ % ssh dl313@nrs-projects-ssh.humboldt.edu
[dl313@nrs-projects-ssh.humboldt.edu's password:
Activate the web console with: systemctl enable --now cockpit.socket
```

```
Last login: Tue Aug 27 21:37:39 2024 from 137.150.231.63
[dl313@nrs-projects ~]$ 
```



dl313 — dl313@nrs-projects:~ — ssh dl313@nrs-projects-ssh.humboldt.edu — 80x24

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[dl313@CS-S34217 ~ % ssh dl313@nrs-projects-ssh.humboldt.edu
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Activate the web console with: systemctl enable --now cockpit.socket
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```
Last login: Tue Aug 27 21:37:39 2024 from 137.150.231.63
[dl313@nrs-projects ~]$ sqlplus /
```



dl313 — dl313@nrs-projects:~ — ssh dl313@nrs-projects-ssh.humboldt.edu — 80x24

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Activate the web console with: systemctl enable --now cockpit.socket
```

```
Last login: Tue Aug 27 21:37:39 2024 from 137.150.231.63
[[dl313@nrs-projects ~]$ sqlplus /
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 21:49:34 2024
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Last Successful login time: Tue Aug 27 2024 21:38:13 -07:00
```

```
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
```

```
SQL> 
```

Connecting to nrs-projects and sqlplus -
Windows



Putty Configuration



Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
 - Selection
 - Colours
- Connection
 - Data
 - Proxy
 - SSH
 - Serial
 - Telnet
 - Rlogin
 - SUPDUP

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address)

Port

Connection type:

SSH Serial Other:

Load, save or delete a stored session

Saved Sessions

Default Settings

Load

Save

Delete

Close window on exit:

Always Never Only on clean exit

About

Open

Cancel



nrs-oracle-db.humboldt.edu - PuTTY

login as: dl313



nrs-oracle-db.humboldt.edu - PuTTY



login as: dl313

dl313@nrs-projects-ssh.humboldt.edu's password: █

 dl313@nrs-projects:~

 login as: dl313

 dl313@nrs-projects-ssh.humboldt.edu's password:

Activate the web console with: systemctl enable --now cockpit.socket

Last login: Tue Aug 27 22:22:10 2024 from 137.150.227.47

[dl313@nrs-projects ~] \$ 

dl313@nrs-projects:~

[dl313@nrs-projects-ssh.humboldt.edu ~]\$ login as: dl313

[dl313@nrs-projects-ssh.humboldt.edu ~]\$ password:

Activate the web console with: systemctl enable --now cockpit.socket

Last login: Tue Aug 27 22:22:10 2024 from 137.150.227.47

[dl313@nrs-projects ~]\$ ls

03lab01	325lab10	325lab3	325lab9	325lect06-1	325lect11-2	lab1
325hw10	325lab11	325lab4	325lect02-2	325lect07-1	325lect12-2	
325hw2	325lab13	325lab6	325lect03-1	325lect08-2	325lect15-2	
325lab01	325lab15	325lab7	325lect04-2	325lect09-1	325submit	
325lab1	325lab2	325lab8	325lect05-2	325lect10-2	326lect12-2	

[dl313@nrs-projects ~]\$

dl313@nrs-projects:~

```
[dl313@nrs-projects-ssh.humboldt.edu's password:  
Activate the web console with: systemctl enable --now cockpit.socket
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[dl313@nrs-projects ~]\$ sqlplus /

dl313@nrs-projects:~

[dl313@nrs-projects-ssh.humboldt.edu's password:
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325lab01	325lab15	325lab7	325lect04-2	325lect09-1	325submit	
325lab1	325lab2	325lab8	325lect05-2	325lect10-2	326lect12-2	

[dl313@nrs-projects ~]\$ sqlplus /

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 22:24:35 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Tue Aug 27 2024 22:22:21 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL>

Handout

- 325connecting-to-nrs-projects.pdf

Handout

- 325linux-handout.pdf
- A interesting video on linux command

Question:

Which of the following statements is true regarding the use of SQL*Plus after connecting to the nrs-projects server?

- 1) You must enter your campus username and password again when using SQL*Plus.
- 2) The connection to SQL*Plus is established automatically upon SSH login.
- 3) You need to type sqlplus followed by a space and a forward slash (/) to initiate SQL*Plus, and no further authentication is required.
- 4) You should navigate to the Oracle database directory before typing sqlplus /.

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2  
[dl313@nrs-projects ~]$ 
```

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
```

```
[dl313@nrs-projects ~]$ ls
```

03lab01	325lab1	325lab15	325lab6	325lect02-2	325lect06-1	325lect10-2	325submit
325hw10	325lab10	325lab2	325lab7	325lect03-1	325lect07-1	325lect11-2	326lect12-2
325hw2	325lab11	325lab3	325lab8	325lect04-2	325lect08-2	325lect12-2	f24-325lect01-2
325lab01	325lab13	325lab4	325lab9	325lect05-2	325lect09-1	325lect15-2	lab1

```
[dl313@nrs-projects ~]$ 
```

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
```

```
[dl313@nrs-projects ~]$ ls
```

03lab01	325lab1	325lab15	325lab6	325lect02-2	325lect06-1	325lect10-2	325submit
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325hw2	325lab11	325lab3	325lab8	325lect04-2	325lect08-2	325lect12-2	f24-325lect01-2
325lab01	325lab13	325lab4	325lab9	325lect05-2	325lect09-1	325lect15-2	lab1

```
[dl313@nrs-projects ~]$ cd f24-325lect01-2
```

```
[dl313@nrs-projects f24-325lect01-2]$ 
```

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
```

```
[dl313@nrs-projects ~]$ ls
```

03lab01	325lab1	325lab15	325lab6	325lect02-2	325lect06-1	325lect10-2	325submit
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325hw2	325lab11	325lab3	325lab8	325lect04-2	325lect08-2	325lect12-2	f24-325lect01-2
325lab01	325lab13	325lab4	325lab9	325lect05-2	325lect09-1	325lect15-2	lab1

```
[dl313@nrs-projects ~]$ cd f24-325lect01-2
```

```
[dl313@nrs-projects f24-325lect01-2]$ pwd
```

/home/dl313/f24-325lect01-2

```
[dl313@nrs-projects f24-325lect01-2]$ 
```

Question

What is the primary purpose of the chmod 700 command when applied to a directory?

- 1) It allows everyone to read, write, and execute files in the directory.
- 2) It gives the owner full permissions (read, write, execute) while denying all access to others.
- 3) It sets the directory to be readable by the owner and others, but only writable by the owner.
- 4) It allows the owner to execute files but prevents writing to them.

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
[dl313@nrs-projects ~]$ ls
03lab01    325lab1    325lab15   325lab6    325lect02-2   325lect06-1   325lect10-2   325submit
325hw10    325lab10   325lab2    325lab7    325lect03-1   325lect07-1   325lect11-2   326lect12-2
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325lab01   325lab13   325lab4    325lab9    325lect05-2   325lect09-1   325lect15-2   lab1
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ pwd
/home/dl313/f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ 
```

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
[dl313@nrs-projects ~]$ ls
03lab01    325lab1    325lab15   325lab6    325lect02-2   325lect06-1   325lect10-2   325submit
325hw10    325lab10   325lab2    325lab7    325lect03-1   325lect07-1   325lect11-2   326lect12-2
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325lab01   325lab13   325lab4    325lab9    325lect05-2   325lect09-1   325lect15-2   lab1
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ pwd
/home/dl313/f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ 
```

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
[dl313@nrs-projects ~]$ ls
03lab01  325lab1  325lab15  325lab6  325lect02-2  325lect06-1  325lect10-2  325submit
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325lab01 325lab13 325lab4  325lab9  325lect05-2  325lect09-1  325lect15-2  lab1
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ pwd
/home/dl313/f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
```

Question:

Which sequence of commands would you use to create a new directory, navigate into it, and protect it so that only you have access?

- 1) `mkdir new_directory, cd new_directory, chmod 700 new_directory`
- 2) `mkdir new_directory, chmod 700 new_directory, cd new_directory`
- 3) `cd new_directory, mkdir new_directory, chmod 600 new_directory`
- 4) `mkdir new_directory, cd new_directory, chmod 600 new_directory`

Just start typing! ↵

[New File]

^G Get Help
^X Exit

^O Write Out
^R Read File

^W Where Is
^\\ Replace

^K Cut Text
^U Uncut Text

^J Justify
^T To Spell

^C Cur Pos
^_ Go To Line

M-U Undo
M-E Redo

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
[dl313@nrs-projects ~]$ ls
03lab01  325lab1  325lab15  325lab6  325lect02-2  325lect06-1  325lect10-2  325submit
325hw10  325lab10 325lab2  325lab7  325lect03-1  325lect07-1  325lect11-2  326lect12-2
325hw2   325lab11 325lab3  325lab8  325lect04-2  325lect08-2  325lect12-2  f24-325lect01-2
325lab01 325lab13 325lab4  325lab9  325lect05-2  325lect09-1  325lect15-2  lab1
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ pwd
/home/dl313/f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ 
```

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
[dl313@nrs-projects ~]$ ls
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325hw2   325lab11 325lab3  325lab8  325lect04-2  325lect08-2  325lect12-2  f24-325lect01-2
325lab01 325lab13 325lab4  325lab9  325lect05-2  325lect09-1  325lect15-2  lab1

[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ pwd
/home/dl313/f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
```

Hit i to start typing

Hit i to start typing
when you done hit esc :wq

~

~

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~

~

:wq

```
[dl313@nrs-projects ~]$ mkdir f24-325lect01-2
[dl313@nrs-projects ~]$ ls
03lab01  325lab1  325lab15  325lab6  325lect02-2  325lect06-1  325lect10-2  325submit
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[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ cp quick-demo.txt demo-copy.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt  quick-demo.txt  quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ 
```

```
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03lab01  325lab1  325lab15  325lab6  325lect02-2  325lect06-1  325lect10-2  325submit
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drwx----- 2 d1313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[d1313@nrs-projects ~]$ cd f24-325lect01-2
[d1313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[d1313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[d1313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[d1313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[d1313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[d1313@nrs-projects f24-325lect01-2]$ cp quick-demo.txt demo-copy.txt
[d1313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt  quick-demo.txt  quick-demo-with-vim.txt
[d1313@nrs-projects f24-325lect01-2]$ more demo-copy.txt
Just start typing!
[d1313@nrs-projects f24-325lect01-2]$ 
```

```
03lab01 325lab1 325lab15 325lab6 325lect02-2 325lect06-1 325lect10-2 325submit  
325hw10 325lab10 325lab2 325lab7 325lect03-1 325lect07-1 325lect11-2 326lect12-2  
325hw2 325lab11 325lab3 325lab8 325lect04-2 325lect08-2 325lect12-2 f24-325lect01-2  
325lab01 325lab13 325lab4 325lab9 325lect05-2 325lect09-1 325lect15-2 lab1  
[[dl313@nrs-projects ~]$ cd f24-325lect01-2  
[[dl313@nrs-projects f24-325lect01-2]$ pwd  
/home/dl313/f24-325lect01-2  
[[dl313@nrs-projects f24-325lect01-2]$ cd  
[[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2  
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drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2  
[[dl313@nrs-projects ~]$ cd f24-325lect01-2  
[[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt  
[[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt  
[[dl313@nrs-projects f24-325lect01-2]$ ls  
quick-demo.txt  
[[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt  
[[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt  
[[dl313@nrs-projects f24-325lect01-2]$ cp quick-demo.txt demo-copy.txt  
[[dl313@nrs-projects f24-325lect01-2]$ ls  
demo-copy.txt quick-demo.txt quick-demo-with-vim.txt  
[[dl313@nrs-projects f24-325lect01-2]$ more demo-copy.txt  
Just start typing!  
[[dl313@nrs-projects f24-325lect01-2]$ ls  
demo-copy.txt quick-demo.txt quick-demo-with-vim.txt  
[[dl313@nrs-projects f24-325lect01-2]$ mv quick-demo.txt my-quick-demo.txt  
[[dl313@nrs-projects f24-325lect01-2]$ ls  
demo-copy.txt my-quick-demo.txt quick-demo-with-vim.txt  
[[dl313@nrs-projects f24-325lect01-2]$ ]]
```

```
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ pwd
/home/dl313/f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ cd
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ cp quick-demo.txt demo-copy.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt quick-demo.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ more demo-copy.txt
Just start typing!
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt quick-demo.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ mv quick-demo.txt my-quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt my-quick-demo.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ rm -i my-quick-demo.txt
[rm: remove regular file 'my-quick-demo.txt'? y
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ 
```

```
[dl313@nrs-projects ~]$ chmod 700 f24-325lect01-2
[dl313@nrs-projects ~]$ ls -ld f24-325lect01-2
drwx----- 2 dl313 hsu-users 6 Aug 27 23:29 f24-325lect01-2
[dl313@nrs-projects ~]$ cd f24-325lect01-2
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ cp quick-demo.txt demo-copy.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt quick-demo.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ more demo-copy.txt
Just start typing!
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt quick-demo.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ mv quick-demo.txt my-quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt my-quick-demo.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ rm -i my-quick-demo.txt
rm: remove regular file 'my-quick-demo.txt'? y
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ ls -l
total 8
-rw-r--r-- 1 dl313 hsu-users 19 Aug 27 23:40 demo-copy.txt
-rw-r--r-- 1 dl313 hsu-users 48 Aug 27 23:40 quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ 
```

```
[dl313@nrs-projects f24-325lect01-2]$ nano quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ vim quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ cp quick-demo.txt demo-copy.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt  quick-demo.txt  quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ more demo-copy.txt
Just start typing!
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt  quick-demo.txt  quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ mv quick-demo.txt my-quick-demo.txt
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt  my-quick-demo.txt  quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ rm -i my-quick-demo.txt
rm: remove regular file 'my-quick-demo.txt'? y
[dl313@nrs-projects f24-325lect01-2]$ ls
demo-copy.txt  quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ ls -l
total 8
-rw-r--r-- 1 dl313 hsu-users 19 Aug 27 23:40 demo-copy.txt
-rw-r--r-- 1 dl313 hsu-users 48 Aug 27 23:40 quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ chmod 600 demo-copy.txt
[dl313@nrs-projects f24-325lect01-2]$ ls -l
total 8
-rw----- 1 dl313 hsu-users 19 Aug 27 23:40 demo-copy.txt
-rw-r--r-- 1 dl313 hsu-users 48 Aug 27 23:40 quick-demo-with-vim.txt
[dl313@nrs-projects f24-325lect01-2]$ 
```

Question:

Which command should you use to check the permissions of a directory and what information will it provide?

- 1) `pwd` to show the current working directory.
- 2) `ls -ld` to show the permissions of the directory and the permissions breakdown for the owner, group, and others.
- 3) `cd directory_name` to navigate into the directory and view its contents.
- 4) `ls -l` to list the files in the directory along with their sizes.

```
[dl313@nrs-projects ~]$ sqlplus /
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:49:30 2024  
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Last Successful login time: Tue Aug 27 2024 22:24:35 -07:00
```

```
Connected to:
```

```
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0
```

```
SQL> 
```

```
[d1313@nrs-projects ~]$ sqlplus /
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:49:30 2024  
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Last Successful login time: Tue Aug 27 2024 22:24:35 -07:00
```

```
Connected to:
```

```
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0
```

```
[SQL> select 3*4  
[ 2  from dual;
```

```
3*4  
-----  
12
```

```
SQL> ]
```

```
[dl313@nrs-projects ~]$ sqlplus /
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:49:30 2024  
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Last Successful login time: Tue Aug 27 2024 22:24:35 -07:00
```

```
Connected to:
```

```
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0
```

```
[SQL> select 3*4  
[ 2  from dual;
```

```
3*412
```

```
[SQL> exit  
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0  
[dl313@nrs-projects ~]$
```

```
[dl313@nrs-projects ~]$ sqlplus /
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:49:30 2024  
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Last Successful login time: Tue Aug 27 2024 22:24:35 -07:00
```

```
Connected to:
```

```
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0
```

```
[SQL> select 3*4  
[ 2  from dual;
```

```
3*4
```

```
-----  
12
```

```
[SQL> exit  
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0  
[dl313@nrs-projects ~]$ vim demo.sql
```

```
select 3*4  
from dual;
```

```
select 10/2  
from dual;
```

~

~

~

~

~

~

~

~

~

~

~

~

~

~

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~

~

~

~

~

~

~

~

```
[SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ sqlplus /
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:53:33 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Tue Aug 27 2024 23:49:30 -07:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
[SQL> start demo.sql
3*4
-----
12
10/2
-----
5
SQL> ]
```

Question:

Which of the following correctly distinguishes a SQL command from a SQL*Plus command?

- 1) SQL commands typically do not require a semicolon at the end, while SQL*Plus commands always do.
- 2) SQL commands are part of the Structured Query Language and require a semicolon at the end, while SQL*Plus commands do not use semicolons and are executed when you press the Return key.
- 3) SQL*Plus commands require a semicolon at the end, while SQL commands do not.
- 4) SQL commands are used for file management, while SQL*Plus commands are used to query and retrieve data from tables.

Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0
[[dl313@nrs-projects ~]\$ vim demo.sql
[[dl313@nrs-projects ~]\$ sqlplus /

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:53:33 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Tue Aug 27 2024 23:49:30 -07:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

[SQL> start demo.sql

3*4

12

10/2

5

[SQL> host
[dl313@nrs-projects ~]\$]

Version 19.3.0.0.0

```
[dl313@nrs-projects ~]$ vim demo.sql  
[dl313@nrs-projects ~]$ sqlplus /
```

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:53:33 2024

Version 19.3.0.0.0

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Last Successful login time: Tue Aug 27 2024 23:49:30 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

```
[SQL> start demo.sql
```

3*4

12

10/2

5

```
[SQL> host
```

```
[dl313@nrs-projects ~]$ vim demo.sql  
[dl313@nrs-projects ~]$ vim demo.sql
```

```
-- this is a single-line comment in SQL
```

```
/* this is a multi-line  
comments in SQL */
```

```
select 3*4  
from dual;
```

```
select 10/2  
from dual;
```

```
~
```

```
~
```

```
~
```

```
~
```

```
~
```

```
~
```

```
~
```

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~
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```

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```

```
~
```

```
~
```

```
~
```

```
-- INSERT --
```

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Aug 27 23:53:33 2024

Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Tue Aug 27 2024 23:49:30 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

[SQL> start demo.sql

3*4

12

10/2

5

[SQL> host

[[dl313@nrs-projects ~]\$ vim demo.sql

[[dl313@nrs-projects ~]\$ vim demo.sql

[[dl313@nrs-projects ~]\$ exit

exit

[SQL>]

```
[SQL> start demo.sql
```

3*4

12

10/2

5

```
[SQL> host
```

```
[dl313@nrs-projects ~]$ vim demo.sql
```

```
[dl313@nrs-projects ~]$ vim demo.sql
```

```
[dl313@nrs-projects ~]$ exit
```

```
exit
```

```
[SQL> start demo.sql
```

3*4

12

10/2

5

```
SQL> 
```

3*4

12

10/2

5

[SQL> host

[dl313@nrs-projects ~]\$ ps x

PID	TTY	STAT	TIME	COMMAND
1407436	?	Ss	0:00	/usr/lib/systemd/systemd --user
1407437	?	S	0:00	(sd-pam)
1407448	?	S	0:00	sshd: dl313@pts/0
1407449	pts/0	Ss	0:00	-bash
1407512	pts/0	S1+	0:00	sqlplus
1419126	?	S	0:00	sshd: dl313@pts/2
1419127	pts/2	Ss	0:00	-bash
1419189	pts/2	S1+	0:00	sqlplus
1441746	?	S	0:00	sshd: dl313@pts/3
1441747	pts/3	Ss	0:00	-bash
1449529	pts/3	S1	0:00	sqlplus
1452214	pts/3	S	0:00	/bin/bash
1452350	pts/3	R+	0:00	ps x

[dl313@nrs-projects ~]\$

```
|SQL> start demo.sql  
3*4  
-----  
12  
  
10/2  
-----  
5  
  
|SQL> host  
[[dl313@nrs-projects ~]$ ps x  
 PID TTY      STAT   TIME  COMMAND  
1407436 ?          Ss    0:00 /usr/lib/systemd/systemd --user  
1407437 ?          S     0:00 (sd-pam)  
1407448 ?          S     0:00 sshd: dl313@pts/0  
1407449 pts/0      Ss    0:00 -bash  
1407512 pts/0      Sl+   0:00 sqlplus  
1419126 ?          S     0:00 sshd: dl313@pts/2  
1419127 pts/2      Ss    0:00 -bash  
1419189 pts/2      Sl+   0:00 sqlplus  
1441746 ?          S     0:00 sshd: dl313@pts/3  
1441747 pts/3      Ss    0:00 -bash  
1449529 pts/3      Sl    0:00 sqlplus  
1452214 pts/3      S     0:00 /bin/bash  
1452350 pts/3      R+    0:00 ps x  
[dl313@nrs-projects ~]$ kill 1449529
```

```
[dl313@nrs-projects ~]$ cd f24-325lect01-2/  
[dl313@nrs-projects f24-325lect01-2]$ vim demo.sql
```

```
-- this is a single-line comment in SQL

/* this is a multi-line
   comments in SQL */

-- spool is a SQL *Plus command that asks for every result of a SQL script
-- to be written to the file named as well as to the screen

spool looky.txt

select 3*4
from dual;

select 10/2
from dual;

-- when you want to stop writing, turn off spooling with spool off
```

spool off

~ ~ ~

-- INSERT --

20,10

A11

Version 19.3.0.0.0

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Last Successful login time: Tue Aug 27 2024 23:53:33 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

|SQL> start demo.sql

3*4

12

10/2

5

|SQL> host ls

03lab01	325lab10	325lab3	325lab9	325lect06-1	325lect11-2	demo.sql
325hw10	325lab11	325lab4	325lect02-2	325lect07-1	325lect12-2	f24-325lect01-2
325hw2	325lab13	325lab6	325lect03-1	325lect08-2	325lect15-2	lab1
325lab01	325lab15	325lab7	325lect04-2	325lect09-1	325submit	looky.txt
325lab1	325lab2	325lab8	325lect05-2	325lect10-2	326lect12-2	

SQL> □

3*4

12

10/2

5

```
|SQL> host ls  
03lab01 325lab10 325lab3 325lab9      325lect06-1 325lect11-2 demo.sql  
325hw10  325lab11 325lab4 325lect02-2  325lect07-1 325lect12-2 f24-325lect01-2  
325hw2   325lab13 325lab6 325lect03-1  325lect08-2 325lect15-2 lab1  
325lab01 325lab15 325lab7 325lect04-2  325lect09-1 325submit   looky.txt  
325lab1  325lab2  325lab8 325lect05-2  325lect10-2 326lect12-2
```

```
|SQL> host more looky.txt
```

3*4

12

10/2

5

SQL> □

Question:

What is the purpose of the “host” command in SQL*Plus?

- 1) To execute SQL commands in a new session.
- 2) To open a new shell in the current directory, allowing you to run shell commands like vim.
- 3) To start a new SQL*Plus session within the current one.
- 4) To terminate all current SQL*Plus sessions.

[dl313@nrs-projects ~]\$ vim demo.sql]

```
/* this is a multi-line
   comments in SQL */

-- spool is a SQL *Plus command that asks for every result of a SQL script
-- to be written to the file named as well as to the screen

spool looky.txt

select 3*4
from dual;

select 10/2
from dual;

-- here is our first table creation!

create table stuff
(name_id integer,
 name varchar2(15),
 quantity integer,
 primary key(name_id)
);
```

-- when you want to stop writing, turn off spooling with spool off

```
spool off
~
```

-- INSERT --

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 28 00:19:42 2024

Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Wed Aug 28 2024 00:09:36 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

[SQL> start demo.sql]

3*4

12

10/2

5

create table stuff

*

ERROR at line 1:

ORA-00955: name is already used by an existing object

SQL> □

```
/* this is a multi-line  
comments in SQL */  
  
-- spool is a SQL *Plus command that asks for every result of a SQL script  
-- to be written to the file named as well as to the screen  
  
spool looky.txt
```

```
select 3*4  
from dual;
```

```
select 10/2  
from dual;
```

```
-- here is our first table creation!
```

```
drop table stuff;[]
```

```
create table stuff  
(name_id integer,  
name varchar2(15),  
quantity integer,  
primary key(name_id)  
);
```

```
-- when you want to stop writing, turn off spooling with spool off  
-- INSERT --
```

SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 28 00:21:59 2024

Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Wed Aug 28 2024 00:19:42 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

[SQL> start demo.sql]

3*4

12

10/2

5

Table dropped.

Table created.

[SQL>]

Version 19.3.0.0.0

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Last Successful login time: Wed Aug 28 2024 00:19:42 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

[SQL> start demo.sql]

3*4

12

10/2

5

Table dropped.

Table created.

[SQL> host [dl313@nrs-projects ~]\$ vim demo.sql]

```
select 3*4  
from dual;  
  
select 10/2  
from dual;  
  
-- here is our first table (drop and) creation!
```

```
drop table stuff;  
  
create table stuff  
(name_id integer,  
 name varchar2(15),  
 quantity integer,  
 primary key(name_id)  
);
```

```
-- here is our first insert into a table!  
  
insert into stuff  
values  
(  
-- when you want to stop writing, turn off spooling with spool off  
  
spool off  
-- INSERT --
```

```
select 10/2
from dual;

-- here is our first table (drop and) creation!

drop table stuff;

create table stuff
(name_id integer,
 name varchar2(15),
 quantity integer,
 primary key(name_id)
);

-- here is our first insert into a table!

insert into stuff
values
(1, 'doohicky', 27);

insert into stuff
values
(2, 'hellooooooo', 13);□

-- when you want to stop writing, turn off spooling with spool off

spool off
-- INSERT --
```

```
create table stuff
(name_id integer,
 name varchar2(15),
 quantity integer,
 primary key(name_id)
);

-- here is our first insert into a table!

insert into stuff
values
(1, 'doohicky', 27);

insert into stuff
values
(2, 'hellooooooo', 13);

-- the simplest select/query statement:
-- say select *
-- from desired_tbl
-- this shows all the columns for all the rows in desired_tbl

-- when you want to stop writing, turn off spooling with spool off

spool off
-- INSERT --
```

```
(name_id integer,  
 name varchar2(15),  
 quantity integer,  
 primary key(name_id)  
);
```

```
-- here is our first insert into a table!
```

```
insert into stuff  
values  
(1, 'doohicky', 27);
```

```
insert into stuff  
values  
(2, 'hellooooooo', 13);
```

```
-- the simplest select/query statement:
```

```
--   say select *  
--   from desired_tbl  
-- this shows all the columns for all the rows in desired tbl
```

```
select *  
from stuff;
```

```
-- when you want to stop writing, turn off spooling with spool off
```

```
spool off  
"demo.sql" 50L, 849C
```

```
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ rm demo.sql
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ exit
logout
Connection to nrs-projects-ssh.humboldt.edu closed.
[dl313@CS-S34217 ~ % ssh dl313@nrs-projects-ssh.humboldt.edu
[dl313@nrs-projects-ssh.humboldt.edu's password:
Activate the web console with: systemctl enable --now cockpit.socket

Last login: Wed Aug 28 00:31:24 2024 from 137.150.231.63
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ vim demo.sql
[dl313@nrs-projects ~]$ sqlplus /
SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 28 00:38:09 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Last Successful login time: Wed Aug 28 2024 00:21:59 -07:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> start demo.sql
```

3*4

12

10/2

5

Table dropped.

Table created.

1 row created.

1 row created.

NAME_ID	NAME	QUANTITY
1	doohicky	27
2	helooooooooo	13

SQL> □

Question:

What is the purpose of using the DROP TABLE command before the CREATE TABLE statement in a SQL script?

- 1) To ensure that the table structure is correctly updated with new columns.
- 2) To remove any existing table with the same name before creating a new one, avoiding errors.
- 3) To delete all rows in the table without affecting the table structure.
- 4) To add new columns to the existing table.

```
[d1313@nrs-projects ~]$ ps x
  PID TTY      STAT   TIME  COMMAND
1407436 ?        Ss      0:00 /usr/lib/systemd/systemd --user
1407437 ?        S      0:00 (sd-pam)
1476016 ?        S      0:00 sshd: d1313@pts/0
1476017 pts/0    Ss      0:00 -bash
1477992 pts/0    R+      0:00 ps x
[d1313@nrs-projects ~]$
```

```
[dl313@nrs-projects ~]$ ps x
  PID TTY      STAT   TIME  COMMAND
1407436 ?        Ss     0:00 /usr/lib/systemd/systemd --user
1407437 ?        S     0:00 (sd-pam)
1476016 ?        S     0:00 sshd: dl313@pts/0
1476017 pts/0    Ss     0:00 -bash
1477992 pts/0    R+     0:00 ps x
[dl313@nrs-projects ~]$ sqlplus /
```

SQL*Plus: Release 19.0.0.0.0 – Production on Wed Aug 28 00:41:43 2024

Version 19.3.0.0.0

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Last Successful login time: Wed Aug 28 2024 00:40:59 -07:00

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 – Production

Version 19.3.0.0.0

```
[SQL]> select *
[ 2  from stuff;
```

NAME_ID	NAME	QUANTITY
1	doohicky	27
2	helooooooooo	13

```
SQL> 
```

```
[dissons-projects ~]$ sqlplus /
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Wed Aug 28 00:41:43 2024  
Version 19.3.0.0.0
```

```
Copyright (c) 1982, 2019, Oracle. All rights reserved.
```

```
Last Successful login time: Wed Aug 28 2024 00:40:59 -07:00
```

```
Connected to:
```

```
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.3.0.0.0
```

```
[SQL> select *  
[ 2 from stuff;
```

NAME_ID	NAME	QUANTITY
1	doohicky	27
2	helooooooooo	13

```
[SQL> describe stuff
```

Name	Null?	Type
NAME_ID	NOT NULL	NUMBER(38)
NAME		VARCHAR2(15)
QUANTITY		NUMBER(38)

```
SQL> 
```

Handout

- sftp-only-version.pdf