Instruction:
Complete all questions in 1 hr.
Let's get started with nice and easy examples of Batch script:

1.Open your favorite text editor. Save it as filename.bat (All files) right click on the file and edit> type >

@ECHO OFF
ECHO HELLO WORLD!
RUN
Run it. You have created your first batch file.
Write the function of set up commands @Echo off and pause.

```
C:\Users\pc\Desktop>cd batch

C:\Users\pc\Desktop\Batch>
```

File Edit Format View Help

```
@echo off
echo Hello World!
```

```
C:\Users\pc\Desktop>question1.bat
Hello World!

C:\Users\pc\Desktop>
```

2.Create a batch program which takes two numeric inputs from the user and checks whether they are equal or not.

```
@echo off
set /p a=Enter the number:
set /p b=Enter another number:

IF %a%==%b% (ECHO numbers are equal)^
ELSE (ECHO numbers are not equal)
pause
```

```
01/24/2023  11:53 AM    <DIR>          image
12/20/2022  01:27 PM           552,790 logsim.zip
01/01/2023  09:48 AM    <DIR>          mergesort_2332917.java
01/17/2023  11:41 AM            79,984 mergesort_np03cs4a220219.Python.docx
12/08/2022  08:08 AM             2,348 Microsoft Edge.lnk
01/24/2023  01:10 PM                 0 New Text Document.txt
01/23/2023  08:45 AM            55,396 niraj.docx
01/16/2023  11:43 PM    <DIR>          python
12/26/2022  11:28 AM               146 python.py
12/17/2022  01:57 AM             1,408 Visual Studio Code.lnk
01/23/2023  04:53 PM           667,967 Week 8 workshop 8.docx
01/23/2023  05:24 PM           273,372 Week 8 workshop 8.pdf
01/24/2023  12:39 PM           324,226 Week 9  Workshop 09 fundamental.docx
01/23/2023  05:24 PM           265,861 Week 9  Workshop 09 fundamental.pdf
              16 File(s)      2,308,229 bytes
               7 Dir(s)  44,543,885,312 bytes free

C:\Users\pc\Desktop>cd batch

C:\Users\pc\Desktop\Batch>question1.bat
'question1.bat' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\pc\Desktop\Batch>notepad question1.bat

C:\Users\pc\Desktop\Batch>question1.bat
Enter the number:1
Enter another number:2
numbers are not equal
Press any key to continue . . .
```

3.Create a batch program which takes a numeric input from the user and checks whether the input is odd or even.

```
@ECHO OFF
TITLE ODD/EVEN
SET /P number=The number is:
SET /A num=%number% %% 2
IF %num%==0 (ECHO The number is even!)^
ELSE (ECHO The number is odd!)
pause
```

```
C:\Users\pc\Desktop\Batch>cd..

C:\Users\pc\Desktop>question1.bat
Enter 1st number:5
(ECHO was unexpected at this time.
C:\Users\pc\Desktop>question1.bat
The number is: 4
The number is even!
Press any key to continue . . .
```

4.Create a batch program which prints natural numbers 1 to 10 using for loop.

```
@echo off

for /l %%x in (1,1,10) do (
   echo %%x
)
```

```
C:\Users\pc\Desktop>question1.bat
1
2
3
4
5
6
7
8
9
10
```

5.Create a simple calculator using a batch script. Which takes two number and third inputs can be “add” ,“sub”, “mul”, “div” and displays the result after calculation and displays error message for any other input in the third. eg: if first input is 2 , second input is 3 and third input is add then it displays the result 5. Note: use function

```
@Echo off
SET /P a= Enter first number:
SET /P b= Enter second number:
SET /P op=Enter the operation:

IF %op%==add CALL :plus EXIT /b
IF %op%==sub CALL :minus EXIT /b
IF %op%==mul CALL :multi EXIT /b
IF %op%==div CALL :division
ELSE (ECHO Error!!!)
EXIT /b


:plus
set /a c= %b%+%a%
echo %c%
pause
Exit /b

:minus
set /a c= %a%-%b%
echo %c%
pause
Exit /b


:multi
set /a c= %b%*%a%
echo %c%
pause
Exit /b

:division
set /a c= %b%/%a%
echo %c%
pause
Exit /b
```

Add

```
C:\Users\pc\Desktop>question1.bat
Enter first number:6
Enter second number:2
Enter the operation:add
8
```

Sub

```
C:\Users\pc\Desktop>question1.bat
Enter first number:6
Enter second number:7
Enter the operation:sub
-1
```

div

```
C:\Users\pc\Desktop>question1.bat
Enter first number:7
Enter second number:7
Enter the operation:div
1
```

mul

```
C:\Users\pc\Desktop>question1.bat
Enter first number:7
Enter second number:5
Enter the operation:mul
35
```

6.Write a batch program to swap mouse keys.

```
@echo off
rundll32 user32,  SwapMouseButton
```

```
C:\Users\pc\Desktop>question1.bat

C:\Users\pc\Desktop>
```

7.The following script is the malicious script responsible for system crash. Explain how it works and explain how you can protect your pc from system crash in Windows OS and Linux.
It is not permanently harmful for computers but annoying.
Warning: do not run this script.

```
:S
Start %0
Goto S
```

The script is a simple infinite loop that produces a new instance of itself and redirects the flow of execution to the script's beginning, causing the script to run indefinitely. The system may slow down and finally fail because of this behavior since it will eat up all of the CPU and RAM that are available. You can use software that recognizes and prevents infinite loops to shield your windows computer from this kind of script. If the script is running and using too many resources, you can also close it using a task manager or an activity monitor.
You can use a program that recognizes and disables infinite loops, or you can use the command to prevent this kind of script from running on your Linux computer.

Use the command "kill" to end a process if you see that it is using excessive resources. Additionally, you may put a limit on the resources that a script may use with the command "ulimit," which can stop a script from using too many resources and crashing the system. The script won't affect your machine in a way that requires repair, it is important to keep that. On any machine, it should not be launched because it is still a dangerous scripts.