

## Linux Assignment-8

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1. A user defined function in shell scripting is a block of code that performs specific task and can be reused multiple times within a script

```
Example: greet () {  
    echo "Hello, $1! Welcome to Bash scripting."  
}  
  
greet "Vidya"
```

2.

```
multiply () {  
    result=$(( $1 * $2 ))  
    echo "Product = $result"  
}  
  
read -p "Enter first number: " num1  
read -p "Enter second number: " num2  
multiply $num1 $num2
```

3

```
1 D ARRAY  
Ø Arr = (10 20 30 40)  
echo ${arr[0]} # 10  
echo ${arr[@]} # prints all elements
```

```
2D ARRAY  
Ø arr2D[0,0]=1  
arr2D[0,1]=2  
arr2D[1,0]=3  
arr2D[1,1]=4  
echo ${arr2D[1,0]} # 3
```

```
3D ARRAY  
Ø arr3D[0,0,0]=100  
arr3D[0,0,1]=200
```

```
4. numbers=(10 20 30 40 50)
echo "Array elements are:"
for n in "${numbers[@]}"
do
echo "$n"
done
```

5. It is time-based job scheduler in Linux used to automatically run scripts or commands in specific time interval

Example: automated backups, Long clean ups

6. Ø open the corn tab file

```
crontab -e
```

Ø add this line

```
0 0 * * * /home/user/backup.sh
```

7. The at command schedule's one time job

example: at 9:00 PM then enter this command /home/user/backup.sh

<Ctrl + D>

8. echo "Disk space usage (overall):"

```
df -h
```

```
echo
```

echo "Disk usage of current directory:"

```
du -sh .
```

9.

The tee command writes output to both the terminal and a log file at the same time echo "Running backup process..." | tee -a logfile.txt

```
date | tee -a logfile.txt
```

```
df -h | tee -a logfile.txt
```

10. Shell scripting automates repetitive system administration tasks like: Backups, User management, Log cleanup, Software updates