Date: 22/10/2020

UNIX
(20CS5PCUSP)

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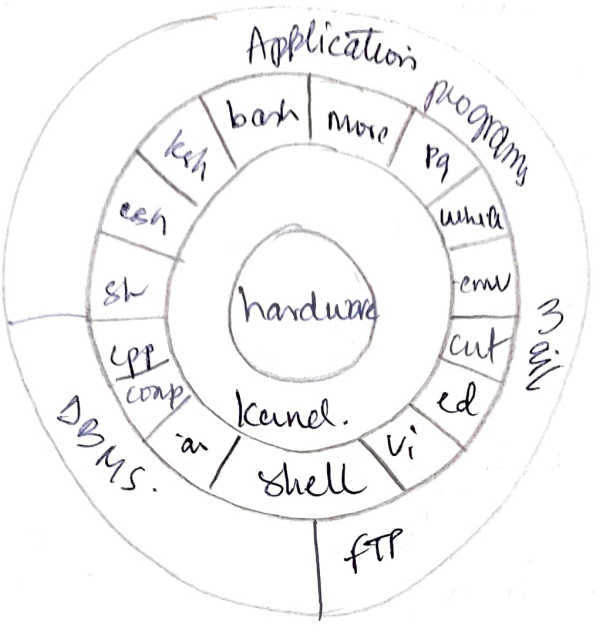
PART - 1

1)



Unix Architecture is divided into 2 components:

(i) Kernel (ii) Shell.

Kernel → Interacts with the machine's hardware

Shell → Interacts with the users and kernel.

- Unix is a layered operating system. The innermost layer is the hardware that provides the services for the O.S.
- These user programs don't need to know how to interact with the kernel to provide service.
- They interact through standard system calls, which is provided by the kernel.

- Unix is a multiuser, multitasking O.S.

Kernel does the following jobs.

(i) System memory is managed by it.
(ii) Schedules processes.
(iii) Decides priorities.

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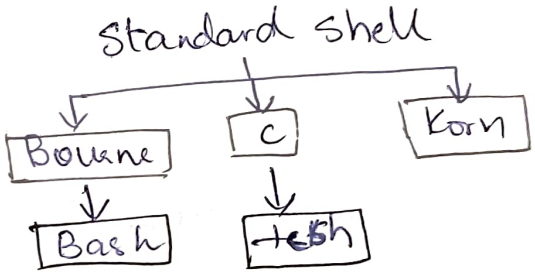
Shell :

- Shell is a command interpreter, it takes each command & passes it to the O.S kernel.
- Whenever we login to the unix system you are placed in the shell program.
- Several shells are usually available on any UNIX System.
- Commonaly used shells are :
  (i) Bourne shell
  (ii) Korn shell
  (iii) c shell
  (iv) Bash
  (v) Tc shell.



Application programs : Contains user written applications.

PART : B.

2a). To start recodding of linux terminal, type script and add the log filename :

Example :

```
~$script script.log
~$cal
```

October 2020

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PART : B

2a) To start recording of linux terminal, type **script** and add the log filename.

Examples:

```
~ $ script script.log #start script
~ $ date
    Thu Oct 22 09:19:01 PDT 2020
~ $ who
  user tty7  2020-03-18 19:08 (:0)
~ $ whoami
    user
~ $ echo 'using script'
  using script
~ $ exit    #to stop the script command.
  exit
Script done, file is script.log.
```

OUTPUT:

```
~ $ vi script.log #display
  date^M
Thu Oct 22 09:19:01 PDT 2020  who^M
  user tty7 2020-03-18 19:08 (:0)
  user who^M
  user echo^M
  using script exit^M
```


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To append the log file [use -a]:

```
~$script -a script.log #append.
 Script started
~$pwd
 /home/user
~$vi script.log
date^M
Thu Oct 22 09:19:01 PDT 2020 who^M
user tty7 2020-03-18 (:0) whoami^M
user echo^M
using script exit ^M
 exit pwd^M
/home/user
```

2b) (i) Copy the entire directory by name Bms located in usr/temp to current directory.

→ `cp -r /user/temp/Bms .` → (.) operator for current directory.

(ii) Rename all the files

→
```
mv -i chap01 unit01
mv -i chap02 unit02
mv -i chap03 unit 03
```

(iii) Remove the files in directory /home/kumar/prgm

`rm -r home/kumar/prgm/*`

(iv) → `comm file1.txt file2.txt`

(v) → `od -b file1.txt`

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2c) (i) Creating an Archive dept.tar for 3 files.

→ tar -cvf dept.tar file1.html file2.html file3.txt

(ii) Extracting the files from the Archive.

→ tar -xvf dept.tar

(iii) Create an compressed file from the Archive dept.tar.

→ gzip dept.tar

PART : C

3a).

```
echo "Enter 3 subject marks"
read m1 m2 m3
sum = `expr $m1 + $m2 + $m3`
avg = `expr $sum / 3`
if [ $avg -lt
if [ $m1 -lt 50 ] && [ $m2 -lt 50 ] && [ $m3 -lt 50 ]
  then
  echo "Fail"
elif [ $avg -gt 90 ]
  then
  echo "Distinction"
```


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```
elif [ $avg -gt 60 ]
  then
   echo "first class"
 else
   echo "second class"
 fi
```

4b) (i)

```
#!/bin/bash
echo "Enter 2 numbers :"
read a b
echo "Enter choice:"
echo "1. Addition"
echo "2. Subtraction"
echo "3. Multiplication"
echo "4. Division"
echo "5. Modulus"
read ch
Case $ch in
    1) res='echo $a+$b|bc'
       ;;
    2) res='echo $a-$b|bc'
       ;;
    3) res='echo $a\*$b|bc'
       ;;
    4) res='echo "scale=2; $a/$b" |bc'
       ;;
```

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```
5) res = 'echo $a % $b | bc'
   ;;
*) echo "Enter a valid choice"
   ;;
esac
echo "Result : $res"
```

(ii)

```
echo "Enter any character :"
read ch
case $ch in
   "a") echo "Its a vowel" ;;
   "e") echo "Its a vowel" ;;
   "i") echo "Its a vowel" ;;
   "o") echo "Its a vowel" ;;
   "u") echo "Its a vowel" ;;
    *) echo "Its a consonant" ;;
esac
```