Section 1

1. Where is the bash program located on your system?

```
/bin/bash
```

2. Use the --version option to find out which version you are running (bash --version).

```
bash --version
```

3. Display directory stack content

```
$dir -al
```

4. Display hashed commands for your current shell session.

```
hash
```

5. How many processes are currently running on your system? Use ps and wc, the first line of output of ps is not a process!

```
ps | wc -l
```

6. How to display the system hostname? Only the name, nothing more!

```
Hostname
```

7. Display current month and year

```
$cal |head -1
```

Section 2

1. Write a script using your favourite editor. The script should display the path to your home directory and the terminal type that you are using. Additionally, it shows all the services started up in runlevel 3 on your system. (hint: use HOME, TERM and ls /etc/rc3.d/S*)
2. Add comments in your script.
3. Add information for the users of your script.
4. Change permissions on your script so that you can run it.

```
#!/bin/bash

clear

echo "The script starts now."
echo

echo "Hi, $USER, your home folder is at $HOME" # to print the home, we need to
use $HOME
echo

echo "You are using $TERM" # $TERM for current terminal emulator
echo

echo "Services started up in runlevel 3"
ls /etc/rc3.d/S* # prints the services at runlevel 3
echo
```

Section 3

1. Create 3 variables, VAR1, VAR2 and VAR3; initialize them to hold the values "thirteen", "13" and "Happy Birthday" respectively. a. Display the values of all three variables.

b. Are these local or global variables?

c. Remove VAR3.

d. Can you see the two remaining variables in a new terminal window?

Ans:

```
$sudo nano Script2.sh
        #! /bin/bash
        VAR1=thirteen
        VAR2=13
        VAR3="Happy Birthday"
        echo $VAR1
        echo $VAR2
        echo $VAR3
$sudo chmod +x Script2.sh
$./Script2.sh
```

2. Edit /etc/profile so that all users are greeted upon login (test this).

```
echo “Welcome $USER”
$sudo login
```

Section 4

1. Display a list of all the users on your system who log in with the Bash shell as a default.

```
$grep bash /etc/passwd
```

2. From the /etc/group directory, display all lines starting with the string "daemon".

```
$grep “^daemon” /etc/group
```

3. Print all the lines from the same file that don't contain the string.

```
$grep -v daemon /etc/group
```

4. Write a bash script that display localhost information from the /etc/hosts file, display the line number(s) matching the search string

```
$grep -n localhost /etc/hosts
```

5. Count the number of occurrences of “localhost” in /etc/hosts.

```
$grep -c localhost /etc/hosts
```

6. Display a list of /usr/share/doc subdirectories containing information about shells.

```
$ls /usr/share/doc/*.*/*.* | grep ‘shell’
```

7. How many README files do these subdirectories contain? Don't count anything in the form of "README.a_string".

```
$ls /usr/share/doc/*.*/*.* | grep -c ‘README.*’
```

8. Put these commands in a shell script that will generate comprehensible output.