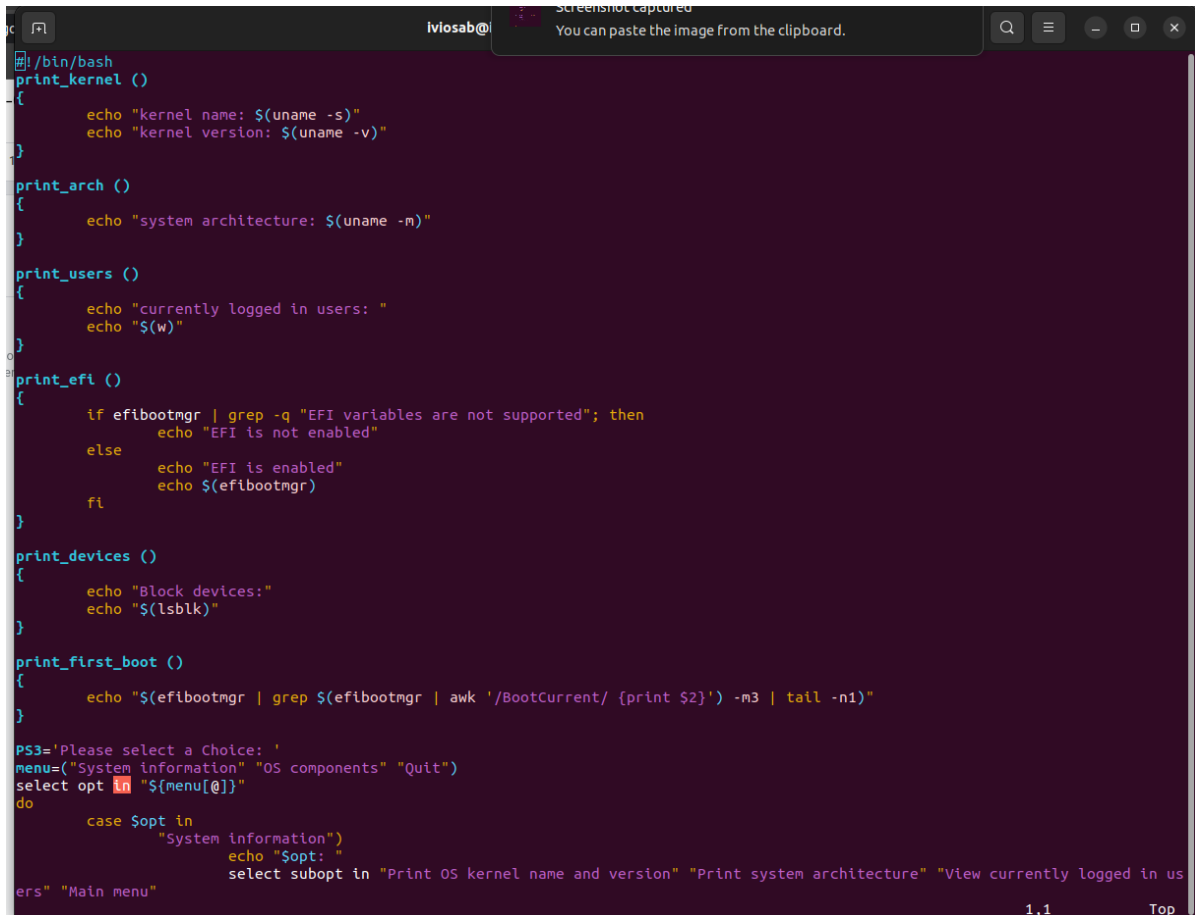


Name: Mosab Fathy Ramadan Mohamed

Group: B20-SD-01

Lab 6: Bash scripting 2

Solution :



The screenshot shows a terminal window with a dark background and light-colored text. The terminal displays a Bash script that defines several functions to print system information. The functions are: `print_kernel()` for kernel name and version, `print_arch()` for system architecture, `print_users()` for currently logged in users, `print_efi()` for EFI status, `print_devices()` for block devices, and `print_first_boot()` for the first boot time. The script also includes a menu system using `PS3`, `menu`, `select`, and `case` statements. A notification bubble in the top right corner says "Screenshot captured. You can paste the image from the clipboard." The terminal output shows the script being executed, with the menu system displaying the options: "System information", "OS components", and "Quit". The user has selected "System information", and the script is now displaying the output of the `print_kernel()` function.

```
#!/bin/bash
print_kernel ()
{
    echo "kernel name: $(uname -s)"
    echo "kernel version: $(uname -v)"
}

print_arch ()
{
    echo "system architecture: $(uname -m)"
}

print_users ()
{
    echo "currently logged in users: "
    echo "$(w)"
}

print_efi ()
{
    if efibootmgr | grep -q "EFI variables are not supported"; then
        echo "EFI is not enabled"
    else
        echo "EFI is enabled"
        echo $(efibootmgr)
    fi
}

print_devices ()
{
    echo "Block devices:"
    echo "$(lsblk)"
}

print_first_boot ()
{
    echo "$(efibootmgr | grep $(efibootmgr | awk '/BootCurrent/ {print $2}') -n3 | tail -n1)"
}

PS3='Please select a Choice: '
menu=("System information" "OS components" "Quit")
select opt in "${menu[@]}"
do
    case $opt in
        "System information")
            echo "$opt: "
            select subopt in "Print OS kernel name and version" "Print system architecture" "View currently logged in users" "Main menu"
            do
                case $subopt in
                    "Print OS kernel name and version")
                        print_kernel
                    ;;
                    "Print system architecture")
                        print_arch
                    ;;
                    "View currently logged in users")
                        print_users
                    ;;
                    "Main menu")
                        menu
                    ;;
                esac
            done
        ;;
        "OS components")
            print_devices
        ;;
        "Quit")
            exit 0
        ;;
    esac
done
```

```
echo "$opt: "
select subopt in "Print OS kernel name and version" "Print system architecture" "View currently logged in users" "Main menu"
do
    case $subopt in
        "Print OS kernel name and version")
            print_kernel
            ;;
        "Print system architecture")
            print_arch
            ;;
        "View currently logged in users")
            print_users
            ;;
        "Main menu")
            break
            ;;
        *)
            echo "invalid option $REPLY"
            ;;
    esac
done
;;
"OS components")
echo "$opt: "
select subopt in "Check if EFI is enabled" "List all connected block devices" "List first boot device on the system" "Main menu"
do
    case $subopt in
        "Check if EFI is enabled")
            print_efi
            ;;
        "List all connected block devices")
            print_devices
            ;;
        "List first boot device on the system")
            print_first_boot
            ;;
        "Main menu")
            break
            ;;
        *)
            echo "invalid option $REPLY"
            ;;
    esac
done
;;
"Quit")
;;
```

## Demo:

```
ivosab@ivosab: ~/Desktop/GitHub/f22-sna/Week-6
ivosab@ivosab:~/Desktop/GitHub/f22-sna/Week-6$ bash menu.sh
1) System information
2) OS components
3) Quit
Please select a Choice: 1
System information:
1) Print OS kernel name and version  3) View currently logged in users
2) Print system architecture         4) Main menu
Please select a Choice: 1
kernel name: Linux
kernel version: #54-Ubuntu SMP Fri Aug 26 13:26:29 UTC 2022
```

```
ivosab@ivosab: ~/Desktop/GitHub/f22-sna/Week-6
ivosab@ivosab:~/Desktop/GitHub/f22-sna/Week-6$ bash menu.sh
1) System information
2) OS components
3) Quit
Please select a Choice: 1
System information:
1) Print OS kernel name and version  3) View currently logged in users
2) Print system architecture         4) Main menu
Please select a Choice: 3
currently logged in users:
 22:32:38 up 15:01, 1 user, load average: 0,96, 1,56, 1,20
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
ivosab    :1        :1            07:31    ?xdm?  6:50m  0.00s /usr/libexec/gdm-x-session --run-script env GNOME_SHELL_SESSION_MODE
=ubuntu /usr/bin/gnome-session --session=ubuntu
Please select a Choice: 
```

```
iviosab@iviosab: ~/Desktop/GitHub/f22-sna/Week-6
iviosab@iviosab:~/Desktop/GitHub/f22-sna/Week-6$ bash menu.sh
1) System information
2) OS components
3) Quit
Please select a Choice: 1
System information:
1) Print OS kernel name and version      3) View currently logged in users
2) Print system architecture             4) Main menu
Please select a Choice: 2
system architecture: x86_64
Please select a Choice: 
```

```
iviosab@iviosab:~/Desktop/GitHub/f22-sna/Week-6$ bash menu.sh
1) System information
2) OS components
3) Quit
Please select a Choice: 2
OS components:
1) Check if EFI is enabled                3) List first boot device on the system
2) List all connected block devices      4) Main menu
Please select a Choice: 1
EFI is enabled
BootCurrent: 0000 Timeout: 0 seconds BootOrder: 0000,0004,2001,2002,2003 Boot0000* ubuntu Boot0002* EFI PXE 0 for IPv4 (00-2B-67-F1-63-5C) Boot0003* EFI PXE 0 for IPv6 (00-2B-67-F1-63-5C) Boot0004* Windows Boot Manager Boot2001* EFI USB Device Boot2002* EFI DVD/CD-ROM Boot2003* EFI Network
Please select a Choice: 
```

```
iviosab@iviosab:~/Desktop/GitHub/f22-sna/Week-6$ bash menu.sh
1) System information
2) OS components
3) Quit
Please select a Choice: 2
OS components:
1) Check if EFI is enabled                3) List first boot device on the system
2) List all connected block devices      4) Main menu
Please select a Choice: 2
Block devices:
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0      7:0    0    4K  1 loop /snap/bare/5
loop1      7:1    0 911,5M  1 loop /snap/clion/205
loop2      7:2    0 911,5M  1 loop /snap/clion/206
loop3      7:3    0 55,6M   1 loop /snap/core18/2560
loop4      7:4    0 55,6M   1 loop /snap/core18/2566
loop5      7:5    0   62M   1 loop /snap/core20/1611
loop6      7:6    0 63,2M   1 loop /snap/core20/1623
loop7      7:7    0 70,4M   1 loop /snap/core22/188
loop8      7:8    0 70,4M   1 loop /snap/core22/275
loop9      7:9    0 164,8M  1 loop /snap/gnome-3-28-1804/161
loop10     7:10   0 346,3M  1 loop /snap/gnome-3-38-2004/115
loop11     7:11   0 346,3M  1 loop /snap/gnome-3-38-2004/119
loop12     7:12   0 414,3M  1 loop /snap/gnome-42-2204/29
loop13     7:13   0 81,3M   1 loop /snap/gtk-common-themes/1534
loop14     7:14   0 91,7M   1 loop /snap/gtk-common-themes/1535
loop15     7:15   0 230,2M  1 loop /snap/racket/2
loop16     7:16   0 45,9M   1 loop /snap/snap-store/592
loop17     7:17   0 45,9M   1 loop /snap/snap-store/599
loop18     7:18   0 48M     1 loop /snap/snapd/16778
loop19     7:19   0 48M     1 loop /snap/snapd/17029
loop20     7:20   0 284K    1 loop /snap/snapd-desktop-integration/10
loop21     7:21   0 284K    1 loop /snap/snapd-desktop-integration/14
loop22     7:22   0 169,4M  1 loop /snap/spotify/60
loop23     7:23   0 347M    1 loop /snap/telegram-desktop/4208
loop24     7:24   0 349,9M  1 loop /snap/telegram-desktop/4256
sda        8:0    0 931,5G  0 disk
├─sda1      8:1    0 999M    0 part
├─sda2      8:2    0 930,5G  0 part
nvme0n1    259:0  0 238,5G  0 disk
├─nvme0n1p1 259:1  0 450M    0 part
├─nvme0n1p2 259:2  0 100M    0 part /boot/efi
├─nvme0n1p3 259:3  0 16M     0 part
├─nvme0n1p4 259:4  0 130,9G  0 part
├─nvme0n1p5 259:5  0 777M    0 part
└─nvme0n1p6 259:6  0 106,3G  0 part /
Please select a Choice: 
```

```
iviosab@iviosab:~/Desktop/GitHub/f22-sna/Week-6$ bash menu.sh
1) System information
2) OS components
3) Quit
Please select a Choice: 2
OS components:
1) Check if EFI is enabled                3) List first boot device on the system
2) List all connected block devices      4) Main menu
Please select a Choice: 3
Boot0000* ubuntu
Please select a Choice: 
```