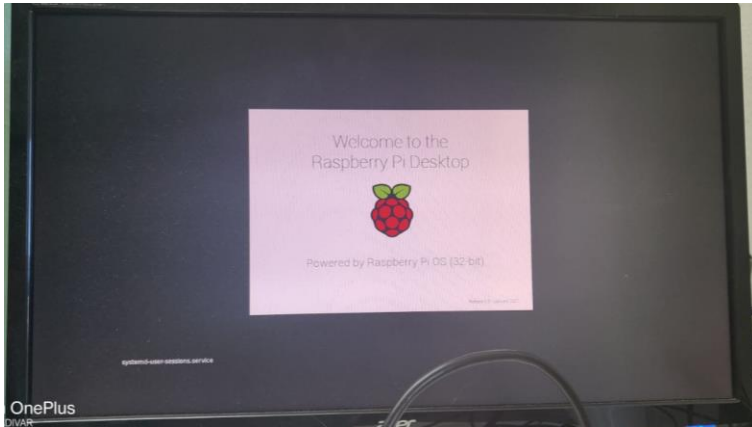


Homework 4p

Swati Kadivar

===== Q1 =====

1. Using the Getting Started instructions above, boot into Raspbian Linux.



2. How much memory is used by the code? (What is the image size?) Think about how you might determine this.

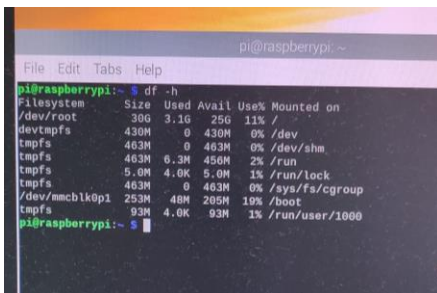
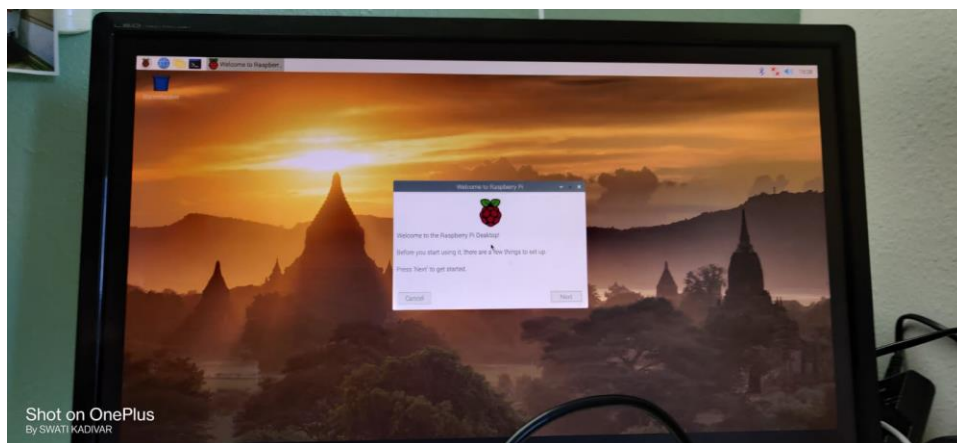
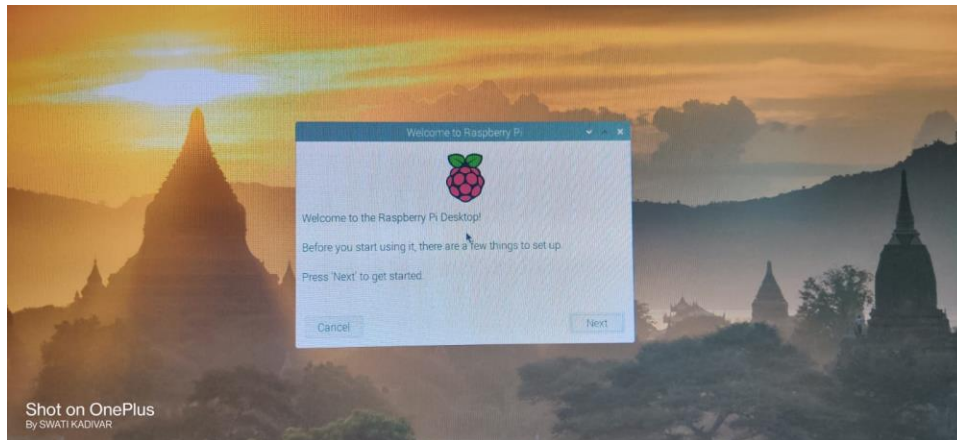
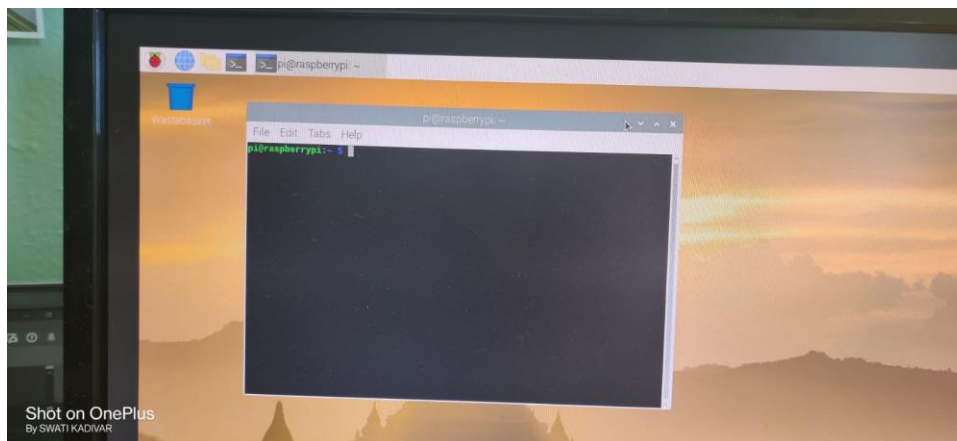


Image size is 3.1GB

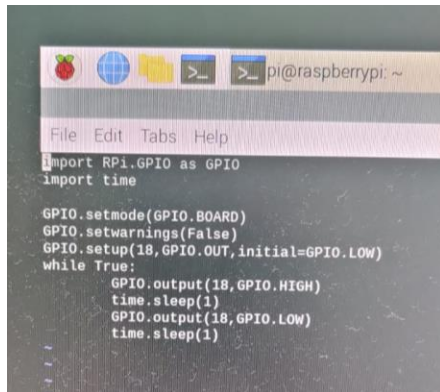
3. Capture a screen shot of the Raspbian Desktop.



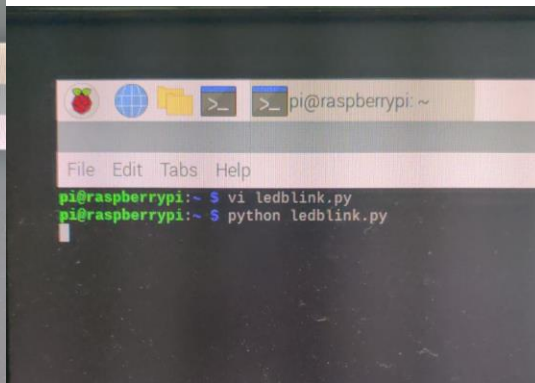
4. Capture a screen shot of a Linux terminal window.



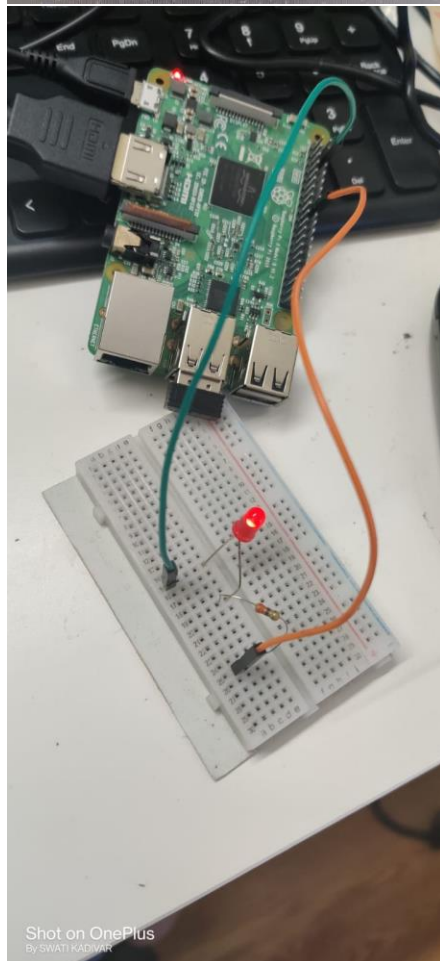
5. Blink the LEDs from the command shell.



```
pi@raspberrypi: ~  
File Edit Tabs Help  
import RPi.GPIO as GPIO  
import time  
  
GPIO.setmode(GPIO.BOARD)  
GPIO.setwarnings(False)  
GPIO.setup(18,GPIO.OUT,initial=GPIO.LOW)  
while True:  
    GPIO.output(18,GPIO.HIGH)  
    time.sleep(1)  
    GPIO.output(18,GPIO.LOW)  
    time.sleep(1)
```



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~ $ vi ledblink.py  
pi@raspberrypi:~ $ python ledblink.py
```



===== Q2 =====

9 How much memory is used by the code? (What is the image size?)

```
LED technology
Fedora 33 (Server Edition)
Kernel 5.0.15-301.fc33.aarch64 on an aarch64 (tty1)
Web console: https://localhost:9898/ or https://19.8.8.177:9898/

localhost login: skadiwar
Password:
skadiwar@localhost ~$
skadiwar@localhost ~$
skadiwar@localhost ~$
skadiwar@localhost ~$ sudo apt-get install python3
skadiwar@localhost ~$
skadiwar@localhost ~$
skadiwar@localhost ~$ df -h
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                   300M         0  300M   0% /dev
tmpfs                       460M         0  460M   0% /dev/shm
tmpfs                       180M     3.4M  176M   2% /run
/dev/mapper/fedora_fedora-root 5.5G     2.3G   3.2G  42% /
tmpfs                       460M     36K  460M   1% /tmp
/dev/mmcblk0p2             1814M    162M   653M  10% /boot
/dev/mmcblk0p1              592M     31M   561M   6% /boot/efi
tmpfs                       94M         0   94M   0% /run/user/1000

skadiwar@localhost ~$
skadiwar@localhost ~$ sudo apt-get install python3

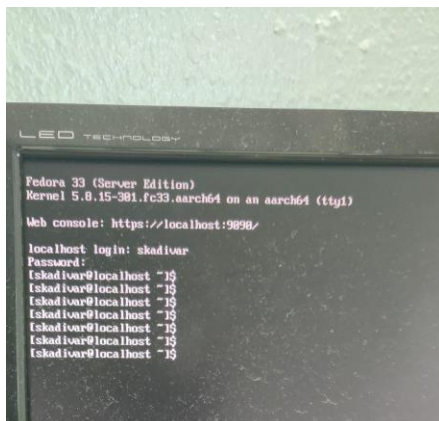
We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.

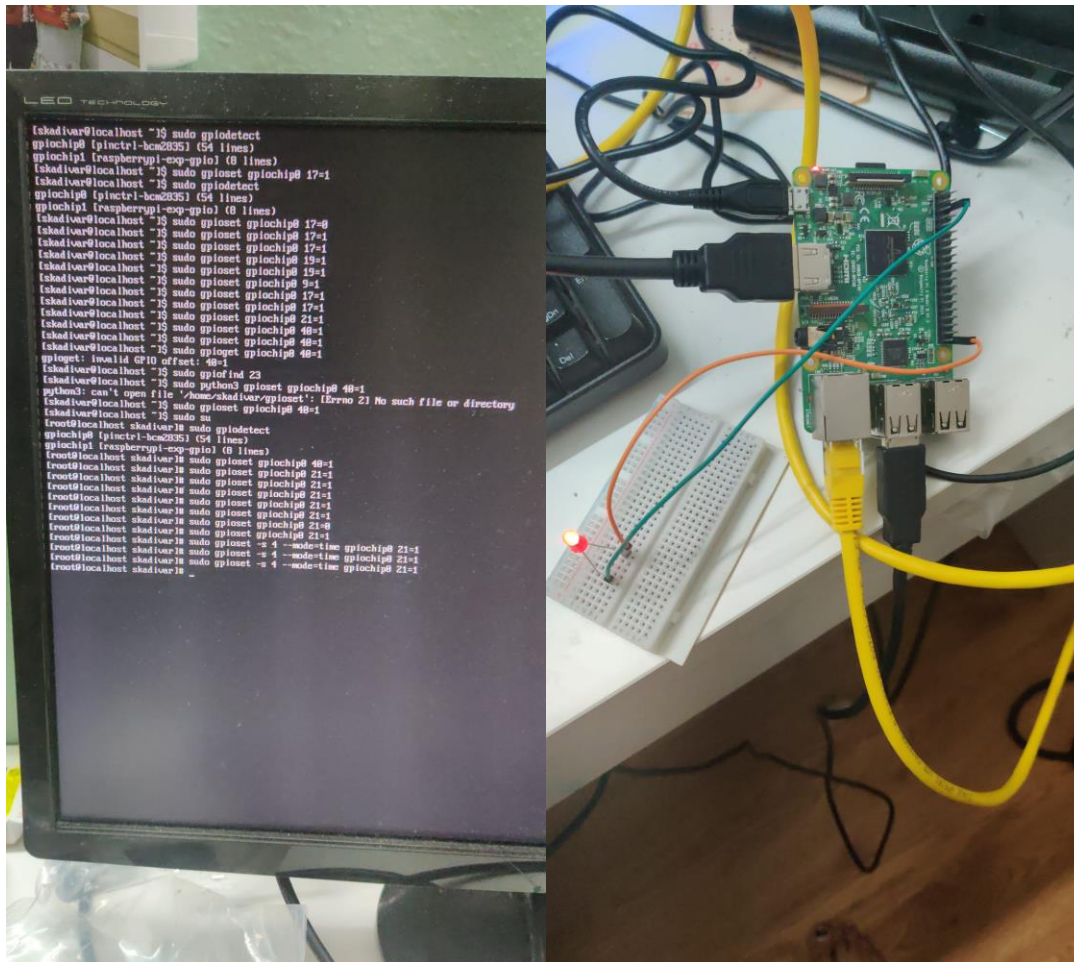
[sudo] password for skadiwar:
sudo: apt-get: command not found
skadiwar@localhost ~$ sudo df install python3
Fedora 33 openh264 (From Cisco) - aarch64
Fedora Modular 33 - aarch64
Fedora Modular 33 - aarch64 - Updates
Fedora 33 - aarch64 - Updates
Fedora 33 - aarch64
Package python3-3.9.0-1.fc33.aarch64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
skadiwar@localhost ~$
```

2.3GB

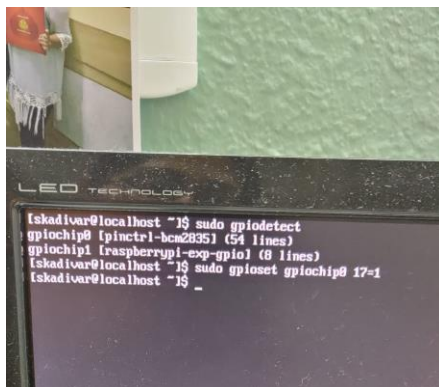
10. Capture a screen shot of a Linux terminal window.



11. Blink an LED from the command shell. In order to control GPIO pins in Fedora, you may need to install the libgpiod library, which can be used from a Python script. See <https://github.com/brgl/libgpiod>



12. Connect the HDMI output to a monitor using an HDMI Cable and adapter if necessary. Reboot the system – what do you see?



I was already using HDMI cable to connect to monitor and access the terminal.

13. Record your observations. How is the Fedora image different from the Raspbian image?

Ref : <https://www.stackshare.io/stackups/fedora-vs-raspbian>

Fedora: Operating system based on the Linux kernel, developed by the community-supported Fedora Project. Fedora is a Linux-based operating system that provides users with access to the latest free and open-source software, in a stable, secure and easy to manage form. Fedora is the largest of many free software creations of the Fedora Project. Because of its predominance, the word "Fedora" is often used interchangeably to mean both the Fedora Project and the Fedora operating system;

Raspbian: A free operating system based on Debian. It is optimized for the Raspberry Pi hardware. It provides more than a pure OS: it comes with over 35,000 packages, pre-compiled software bundled in a nice format for easy installation on your Raspberry Pi.