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# Assignment 5

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Aim: Understanding an connectivity of Raspberry Pi / Beagle board with camera.

Theory :

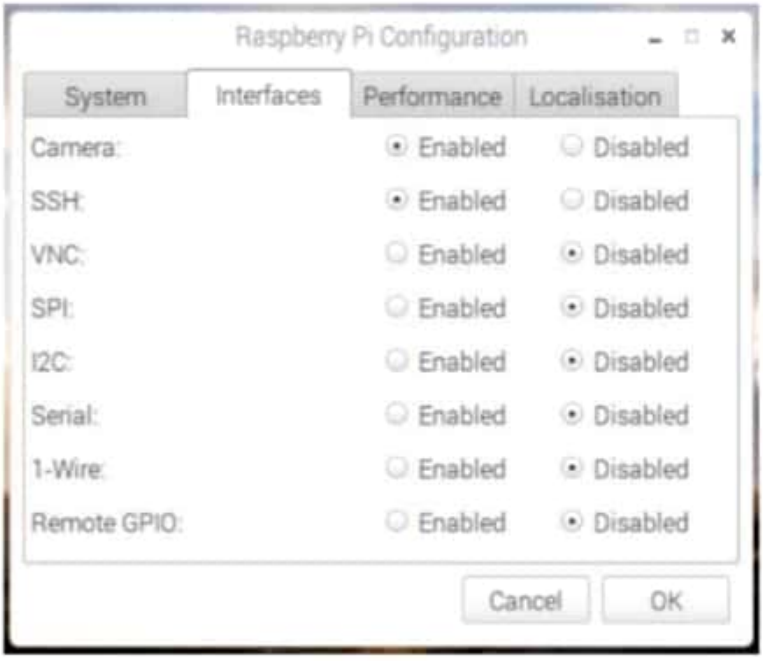
Raspberry pi camera module V2 replaced the original camera module in April 2016. The $V_2$ Camera module has sony IMX 219 8-megapixel sensor. The camera module can be used to take high-definition video as well as stills photographs. Its easy to use for beginners, but has plenty to offer advanced users if you are looking to expand your knowledge. It supports 1080p 30, 720p60 and VGA90 video modes, as well as still capture. It attaches via a 15cm ribbon cable to the CSI port on the Raspberry Pi. The camera works with all mode of Raspberry Pi 1, 2, & 3. It can be accessed through the MMAL and V4L API's & these are numerous third party libraries built after it, including the pi camera python Library

(1) Camera preview :-

```
From picamera import PiCamera
from time import sleep
camera = PiCamera()
camera.start_preview()
sleep(10)
camera.stop_preview()
```

**Pi Camera**

**Open Raspberry Pi Configuration and Enable the Camera**



② Rotating the camera :

```
camera.rotation = 180
camera.start_preview()
sleep(100)
camera.stop_preview()
```

③ Storing the image :

```
from picamer import picamera
from time import sleep
camera = picamera()
camera.start_preview()
 sleep(10)
camera.capture('/sanch/image1.jpg')
camera.stop_preview()
```

④ Recording the video :

```
from pi camera import picamera
from time import sleep
 camera = picamera()
 camera.start_preview()
 camera.start_recording('/home/pi/video.h264')
 sleep(10)
 camera.stop_recording()
 camera.stop_preview()
```

Conclusion :

Thus we studied Pi camera & also stored image & videos using Pi camera.