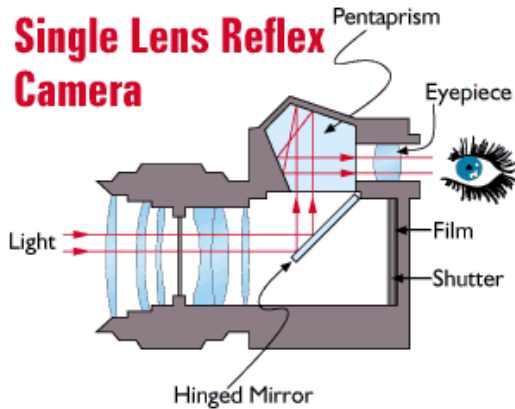


## Unit 27: Digital photography

Digital photography is photography in which images are captured and stored in digital form; the use of a digital camera to take photographs.







### Single Lens Reflex Camera



### Digital image capture

Digital Cameras are essentially boxes that capture light coming through a lens. Photographers point the camera at an object, compose their shot and press the shutter button. The shutter opens, exposing the film or digital sensor to the light, a piece of electronic equipment that captures the incoming light rays and turns them into electrical signals capturing what it “sees” and storing it for later viewing or processing. This light detector is one of two types, either a charge-coupled device (CCD) or a CMOS image sensor.

The three main file formats for digital photographs are RAW, TIFF and JPEG. Both RAW and TIFF formats do not apply any compression to the photo to save space on your memory card. When your camera saves a digital photo as a RAW or TIFF file (if it can), the photo includes all of the information captured by your camera's image sensor most people don't save the image like this as it will take up to much space only skilful photographers do. *Some types of Memory Cards are:*

<b>SD (Secure Digital) Memory Cards</b>	<b>SD</b> cards are by far the most common type of memory card. They are compatible with the majority of digital cameras.	
<b>SDHC (Secure Digital High Capacity) Memory Cards</b>	Original SD cards only went up to 2GB, so <b>SDHC</b> was invented with a maximum capacity of 32GB but not all SDHC fit a digital camera.	
<b>Micro SD Memory cards</b>	<b>Micro SD</b> cards were initially a popular method of storing images in mobile phones. In actual size they are the smallest commercially available memory card but only a small number of digital cameras.	
<b>SDXC (Secure Digital 'Xtra Capacity') Memory Cards</b>	These are SD cards but with a much higher capacity and faster processing speeds. These have a maximum capacity of 2TB (Terabytes).	

## Storage:

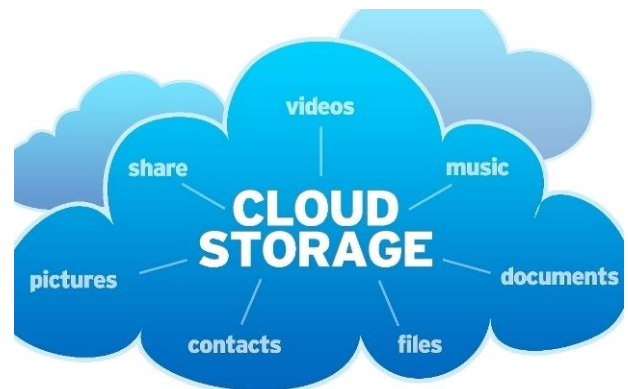
There are many different way you can store photographs, one being a USB memory stick, A USB drive -- also known as a flash drive is a plug-and-play portable storage device that uses flash memory, documents to images can be saved on this drive, USB drive, data can be retained for long periods when the device is unplugged from the computer, or when the computer is powered-down with the drive left in. Another way would be



A hard disk drive which is a non-volatile memory hardware device that permanently stores and retrieves data on a computer but can be found in mobile devices, consumer electronics and enterprise storage arrays in data centres. Hard disks spin at very high speeds (around 7,200 RPM - revolutions per minute) within a sealed unit inside

the computer. Hard disks store large amounts of data - 200GB to 1TB is common in desktop computers.

The last one being the cloud which is a cloud computing model in which data is stored on remote servers accessed from the Internet, or "cloud." Files saved to the internet are more secure; there's a lesser risk of losing your data. Backups to CD/DVD-ROM and USB drives just can't offer the same level of protection.



## Types of cameras:

There are different types of cameras that suit a person and there needs for one the three main types are compact digital camera, advanced digital camera and SLR/DSLR (digital signal Lens relflex).

Compact digital cameras are types of cameras that come in ultra-compact size, generally this type of camera is great for point and shot, fully automatic photography as they don't have a wide zoom as you can't change the lens.



Advanced digital cameras have many different names like advance digital, prosumer and bridge camera. They come in different shapes and sizes they are also a lot larger than the compact cameras and have a good quality zoom lenses and a fairly wide range of focal lengths.



SLR/DSLR (digital signal lens reflex) cameras main advantages is the ability to change lenses based on the desired outcome and subject. They tend to be a lot larger and weight more, DSLR's range from little under a pound up to 4 pounds or more for the proccessional camera bodies.



There are also smart phone cameras which is a digital camera in your phone the quality on some phones can be good but compared to a digital camera there is no comparison, but on a smart phone you can edit your images from your phone using apps by changing the colour, background and cropping your image.



Canon digital



and Gopro cameras mountable camera. photos and video in lens while being work automatically.



which is a lightweight, compact, and The GoPro camera can capture still high-definition through wide-angle remotely controlled or configured to

### Image manipulation:

Photo manipulation involves transforming or altering a photograph using various methods and techniques to achieve desired results. For digital camera you can get attachments that change the outcome of your image also after the image is taken many digital cameras have filters that can alter your photograph without using computer Photoshop software. Within the camera software you are able on most new digital cameras to change the lighting/contrast and colour; also you can crop and sharpen the image first taken to make it stand out.



Some filters can be attached to the camera, they are called lens filters. Camera lens filters can serve different purposes in digital photography. They can be indispensable for capturing scenery in extremely difficult lighting conditions; they can enhance colours and reduce reflections or can simply protect lenses. Filters are widely used in photography and cinematography.

Four as examples:

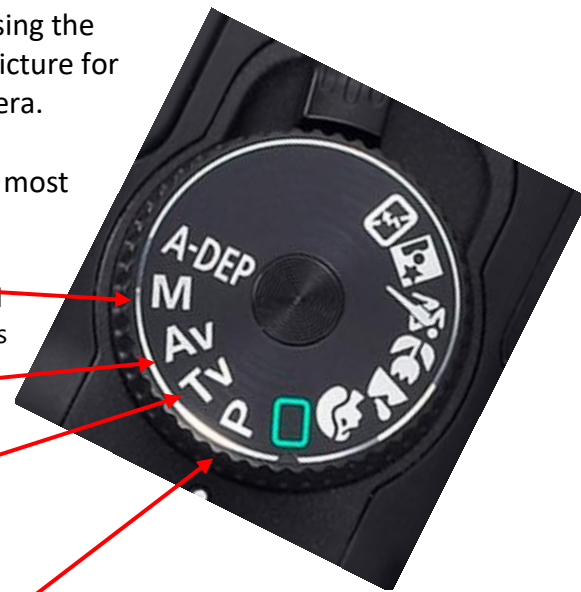
Lens Filter	Photography Type	Purpose
UV/Clear/Haze Filter	Any	Protects the front element of a lens, High quality UV filters can be permanently mounted on lenses without affecting the image
Polarizing Filter	Any	Dramatically reducing reflections, enhancing colours and increasing contrast. Used for any type of photography.
Neutral Density (ND) Filter	Landscape, Flash Photography	Reduces the amount of light entering the lens, Useful for situations where motion blur needs to be created (rivers, waterfalls, moving people)
Close-Up Filter	Macro Photography	Known as "diopter", a close-up filter allows a lens to focus closer on subjects. These filters are only used for macro photography.

#### Camera modes:

Digital Camera Modes allow photographers to control the parameters of an exposure, specifically, Shutter Speed, Aperture and ISO. Using the different modes allows the photography to take the right picture for example each different mode reacts differently to the camera.

The four main types of camera modes that can be found in most digital cameras today are:

1. **Manual (M)**  
In this mode, you can manually set both the aperture and the shutter speed to any value you want – the camera lets you fully take over the exposure controls.
2. **Aperture Priority (Av) or (A)**  
Manually set the lens aperture, while the camera automatically picks the right shutter speed to properly expose the image.
3. **Shutter Priority (Tv) or (S)**  
Manually set the camera's shutter speed and the camera automatically picks the right aperture for you, based on the amount of light that passes through the lens.
4. **Program (P)**  
The camera automatically chooses the Aperture and the Shutter Speed for you, based on the amount of light that passes through the lens. This is the mode you want to use for "point and shoot" moments.



#### Post production:

In digital photography post-production, post-processing or simply processing refers to work that is done on the digital files after they have been captured by the camera. This can be done by using different software on computers or other electrical devices like Adobe Photoshop and Pixlr.



PIXLR



**Production process:**

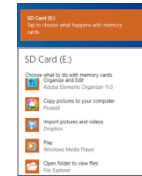
Getting the images off your camera on the computer is what many people do to print out their images; this can be done by using the SD card in your camera.

**STEP 1**

Take the memory card from your camera and insert it into your laptop. The SD card needs to be pushed in all the way until you hear a click.

**STEP 2**

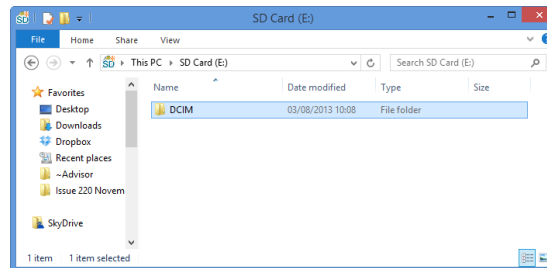
If you have a Windows computer it should display a message you want to do with the card. AutoPlay menu, and we recommend you choose Open folder to view files.



computer it asking what This is the recommend

**STEP 3**

A



3 new

Explorer window should open and you should see at least one folder called DCIM. This is where your photos are stored. Double-click the folder and you will see at

least one folder within it.

**STEP 4**

Select the photos you want to copy. The easiest way is to select them all by clicking on the Home tab and the Select all on the right-hand side. If you want to print you can right click

**Camera components:****You'll need:**

- a computer with an internet connection
- a digital camera
- a memory card from your camera to insert in your computer's memory card slot.





**Other equipment:**

To take a good photo

- 1) The Camera
- 2) Lenses
- 3) The Tripod
- 4) Lighting



**Lighting**

Light, can be the main ingredient in a photograph. We call nature's light, natural or available like the sunlight or moonlight.

There are four common types of artificial light sources used for photography today

Incandescent	
Fluorescent	

LED	
Studio strobe	

