01 **Zero & One**

Unit 1: What is Information?

Programming & AI, 1st secondary (Introduction to ICT)



Engineer Rahim

1-1 Information and Media

- **Data → information → knowledge**
  - **Data:** facts represented with **numbers, characters or symbols** that mean little on their own
  - **Information:** data that has **meaning or value** for the person receiving it and serves as a basis for a **decision**
  - **Knowledge:** information that has been **analysed and organised** systematically to help **solve problems**
- **Characteristics of information**
  - **Persistence:** once created, information can never be completely erased
  - **Reproducibility:** it is copied easily and in large quantities
  - **Propagation:** it is easy to pass on and spread, through **mass media** such as newspapers and TV, and through the internet.
- **Primary and secondary information**
  - **Primary information:** you got it yourself, from direct experience, research or an experiment
  - **Secondary information:** it reached you through a **third party**
- **Media and their types**
  - **Expression media:** used to express information: text, images, audio, video.
  - **Propagation/Transmission media:** an intermediary for carrying and exchanging information: TV, radio, newspapers, books, telephone, internet.
  - **Recording media:** used to record and store information: paper, USB drives, DVDs, cloud storage.
- **Media literacy**: The ability to **understand what media are and how they work**, and to **interpret the information they carry accurately**

Data	Facts represented with numbers, characters or symbols
Information	Data that has meaning or value for the receiver and supports a decision
Knowledge	Information analysed and organised to help solve problems
Persistence	Once created, information cannot be completely erased
Reproducibility	Information can be copied easily and in large quantities
Propagation	Information is easy to pass on and spread
Primary information	Information you obtain yourself through experience, research or experiments
Secondary information	Information that reaches you through a third party
Cross-checking	Comparing information with other sources to judge its accuracy and reliability
Media literacy	The ability to understand media and interpret their information accurately

1-2 Information Ethics

- **Information ethics**: The **basic ideas and attitudes** you need to act properly in the information society
- **Before you post anything**

- Do not share images or videos whose **copyright** belongs to someone else without permission.
- Do not leak another person's **personal information** online.
- Do not invade other people's **privacy**.
- Do not post defamatory comments or take part in **cyber bullying**.

- **Geotags and rumours**
  - **Geotagging:** the latitude and longitude a phone stores inside a photo or video
  - **Disinformation and rumors:** false information spread **on purpose**, or rumours with **no basis**
- **Smartphone and social media problems**
  - **Internet addiction:** being so absorbed in the internet that it disrupts daily life (sleep, study, health).
  - **Using smartphone while walking:** dangerous for you and the people around you.
  - **Cybercrime:** misusing computers and networks for criminal activities.
  - **Identity theft:** someone pretends to be a person or an organisation (such as a bank) to steal IDs or passwords.
  - **Leakage of personal information:** information that should stay confidential reaches a third party.
- **Quick rules**
  - Remember there are **real people** on the other side of the screen.
  - Ask before posting a photo of someone.
  - Switch off or silence your phone in cinemas and museums.
  - Do not send your photos or data to a stranger you met online.

Information ethics	The basic ideas and attitudes for acting properly in the information society
Geotag	Latitude and longitude stored inside a photo or video
Disinformation and rumors	False information spread on purpose, or rumours with no basis
Cyber bullying	Hurting or defaming someone on the internet
Social media	Platforms where individuals connect with each other online
Internet addiction	Excessive internet use that disrupts daily life
Cybercrime	Misusing computers and networks for criminal activities
Identity theft	Pretending to be a person or organisation to steal IDs or passwords
Leakage of personal information	Confidential personal information reaching a third party

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