CONCEPTS OF INFORMATION

DATA

Meaning: Data is raw, unorganized facts that need to be processed.
Data can be something simple and seemingly random and useless until it is organized.

• Example: Each student's test score is one piece of data

DATA

• Data is a collection of facts
• **Data** are plain facts. When data are processed, organized, structured or presented in a given context so as to make them useful, they are called **Information**.

INFORMATION

Meaning: When data is processed, organized, structured or presented in a given context so as to make it useful, it is called Information.

• Example: The class' average score or the school's average score is the information that can be concluded from the given data.

INFORMATION

• Information is interpreted data.
• Information is processed data

INFORMATION SOURCE

• An **information source** is a source of information for somebody, i.e. anything that might inform a person about something or provide knowledge about it. Different types of questions require different sources of information.

TYPES OF INFORMATION SOURCES

- Information sources may be observations, people, speeches, documents, pictures, organizations, websites, etc.

CATEGORIES OF INFORMATION SOURCES

- primary sources, secondary sources, tertiary sources and so on. But these three are the common ones.

Primary sources

- **Primary sources** are original materials that the writer has personal knowledge about the information provided.
- In the study of history, a primary source (also called **original source** or **evidence**) is an artifact, a document, a recording, or other source of information that was created at the time under study

- Information for which the writer has no personal knowledge is not primary.

Secondary source

- A **secondary source** is a document or recording that relates or discusses information originally presented elsewhere.
- A secondary source contrasts with a primary source,

Tertiary source

- Tertiary sources attempt to summarize and consolidate the source materials into an overview,
- but may also present subjective commentary and analysis (which are characteristics of a secondary source).

Examples of tertiary sources

- almanacs,
- guide books,
- survey articles,
- timelines,
- bibliography,
- dictionary, or encyclopedia and
- user guides.

Almanac

- An **almanac** is an annual publication that includes information such as weather forecasts, farmers' planting dates, tide tables, and tabular information often arranged according to the calendar.

encyclopedia

- An **encyclopedia** is a type of reference work – a compendium holding a summary of information from either all branches of **knowledge** or a particular branch of knowledge. Encyclopedias are divided into articles or entries, which are usually accessed **alphabetically** by article name. Encyclopedia entries are longer and more detailed than those in most **dictionaries**.

Note
- **A *dictionary*** is a book of words with their lexical (*msamiati*) and grammatical (*kisarufi*) meaning . It is made up of units called entries (*ingizo*).

Data vs. Information

- It is not enough to have data (such as **statistics** on the economy).
- **Data** in themselves are fairly useless. But when these data are *interpreted* and processed to determine its true *meaning*, they become useful and can be called **Information**.

Dissemination

Meaning:
- Dissemination takes on the theory of the traditional view of **communication**, which involves a sender and receiver.

- The traditional **communication** view point is broken down into a sender sending information, and receiver collecting the information processing it and sending information back, like a **telephone line**.

NB:
Dissemination is the transfer of information from a sender to a receiver with a reply, like in telephone line

Information Dissemination

- The information is sent out and received, but no reply is given. The message carrier sends out information, not to one individual, but many in a **broadcasting system.**

Traditional ways of Disseminating information

- Stories
- Songs
- Drawings
- Horns
- Whistles, etc

Modern ways of Disseminating information

- Advertising,
- Public announcements,
- Speeches,
- Platforms (e.g. Online learning platforms),
- Collaborative websites (e.g. wikis, blogs),
- Repositories (e.g. documentation and CVs repositories), etc

Communication Media

- Refers to the means of delivering and receiving data or information. In telecommunication, these means are transmission and storage tools or channels for data storage and transmission.

Two forms of communication media

- **Analog**: Includes the conventional radio, telephonic and television broadcasts.
- **Digital**: Computer mediated communication, computer networking and telegraphy.

Communication Media

- TV
- Radio
- Newspapers
- Journal
- Magazines
- Books, etc

- Anything stored in a computer system is data or information. This could be numbers, dates, names, addresses, text, ...

- There is no real difference between data and information. Information usually applies to something which users can understand.

- Data is the computer's language.
- Information is the translation of computer's language.

- Computers are very important to our daily life
- Routine tasks that were once done by human beings can now be performed more quickly and less expensively by computers.

Significance of Computer

- Computers for food production
- Computers for security
- Computers in education
- Computers in Banks
- Computers in Hospitals
- Computers in Libraries
- Computers in Airports

Computers for food production

- Whatever food we eat, it has to be grown, processed and delivered to shops or markets before we can buy them.

Computers in supermarkets

- In supermarkets computers organizes number of items to buy, read the bar codes on each item and each item is automatically recorded at the till, and it displays the total bill.

Computers are everywhere

- **Personal Digital Assistants (PDA)**

Such electronic organizers can be used instead of diary. They can also contain some standard **software**. Such as spreadsheets and word processors

- **Mobile phones**

Are increasingly being used as simple computers. For example to send and receive text messages and connect to the internet

Computers are everywhere cont...

- Small **microprocessors** are also embedded in many **consumer products** such as cars, microwave ovens, video recorders and DVD players.
- We don't notice them because they input process and output data all **inside the equipment.**

Computer for everything

- TV
- Digital clocks and watches
- Washing machines
- Hi-fi units
- **Microwave ovens**
- Credit cards, etc