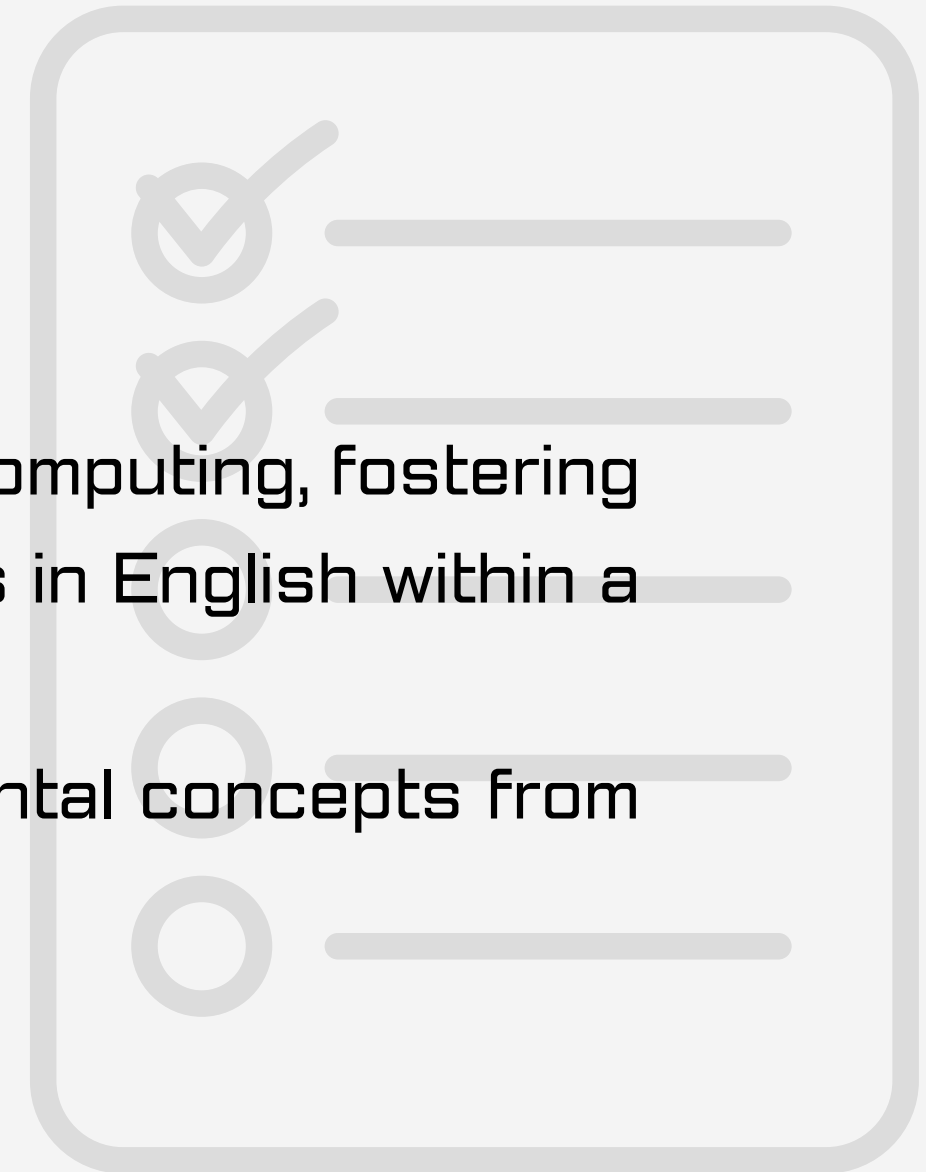# OBJECTIVES OF THE UNIT

- Improve comprehensive understanding of cloud computing, fostering the development of their reading and writing skills in English within a technical context.
- Extract key information and understand fundamental concepts from written materials related to programming.

QUIZLET LIVE

- TECH CAREERS

WHAT IS A CLOUD?

"The cloud" refers to servers that are accessed over the Internet, and the software and databases that run on those servers. Cloud servers are located in data centers all over the world. By using cloud computing, users and companies do not have to manage physical servers themselves or run software applications on their own machines.

USEFUL CLOUD COMPUTING TERMINOLOGY

Database

A database is a collection of data that is stored digitally in a computing system. Organizations typically use database management systems to retrieve, manipulate, and manage their data.

Machine Learning

Machine learning is a branch of artificial intelligence concerned with building smart computer algorithms that improve over time. Organizations use machine learning to identify patterns in massive datasets and use those insights to enhance performance.

Infrastructure-as-a-Service (IaaS)

is one of the primary types of cloud services that provide users with instant computing, storage, and other IT infrastructure delivered through the Internet. IaaS solutions typically scale with demand, allowing organizations to pay only for what they use.

Google Cloud

A database is a collection of data that is stored digitally in a computing system. Organizations typically use database management systems to retrieve, manipulate, and manage their data.

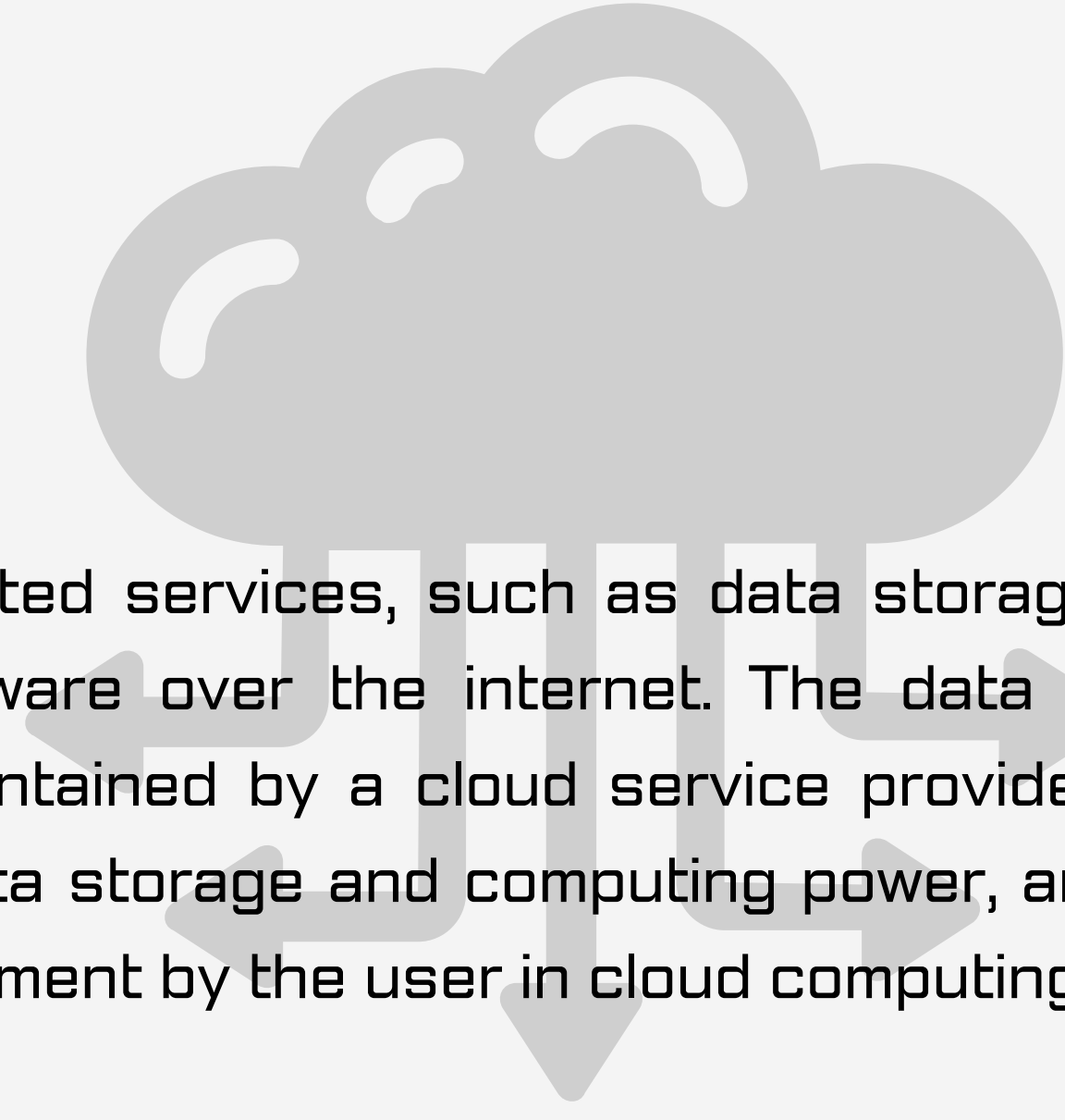# What Is Cloud Computing? Definition, Benefits, Types, and Trends

Cloud computing is defined as the use of hosted services, such as data storage, servers, databases, networking, and software over the internet. Since cloud computing began, the world has witnessed an explosion of cloud-based applications and services in IT, which continue to expand. Almost every application we use resides on the cloud, helping us save storage space, expenses, and time. This article discusses the types of cloud computing and 10 trends to watch out for.
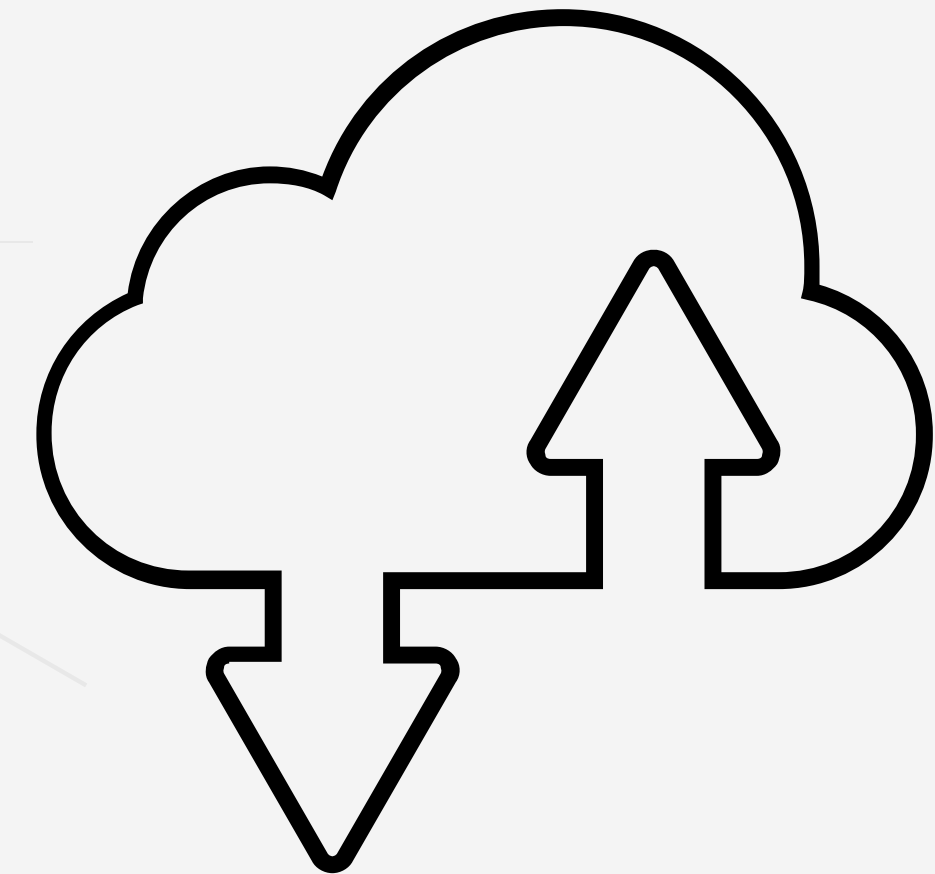
WHAT IS CLOUD COMPUTING?

Cloud computing refers to the use of hosted services, such as data storage, servers, databases, networking, and software over the internet. The data is stored on physical servers, which are maintained by a cloud service provider. Computer system resources, especially data storage and computing power, are available on-demand, without direct management by the user in cloud computing.
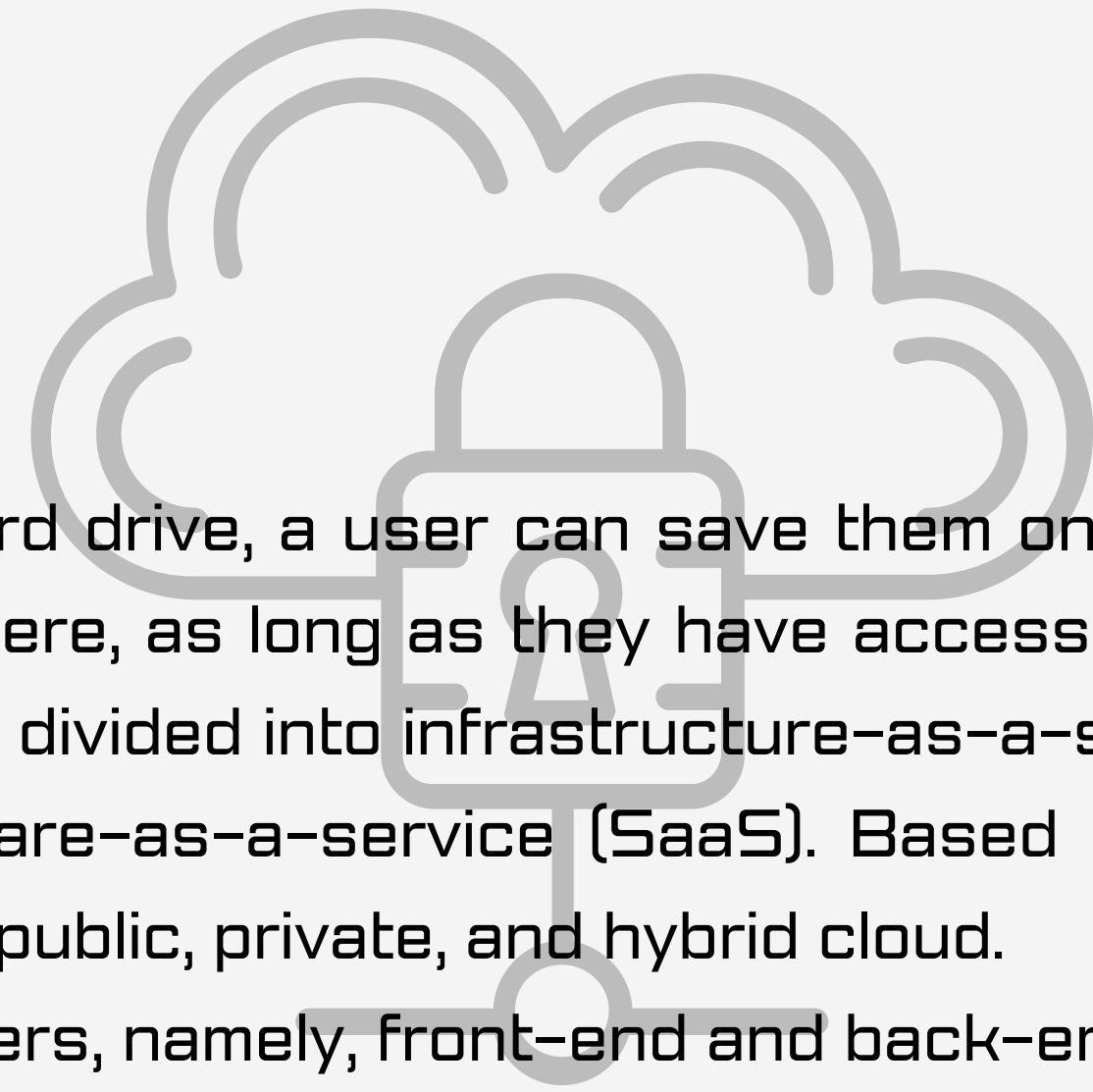
CLOUD COMPUTING ARCHITECTURE

Instead of storing files on a storage device or hard drive, a user can save them on cloud, making it possible to access the files from anywhere, as long as they have access to the web. The services hosted on cloud can be broadly divided into infrastructure-as-a-service (IaaS), platform-as-a- service (PaaS), and software-as-a-service (SaaS). Based on the deployment model, cloud can also be classified as public, private, and hybrid cloud.

Further, cloud can be divided into two different layers, namely, front-end and back-end. The layer with which users interact is called the front-end layer. This layer enables a user to access the data that has been stored in cloud through cloud computing software.
.

TYPES OF CLOUD COMPUTING

Cloud computing can either be classified based on the deployment model or the type of service. Based on the specific deployment model, we can classify cloud as public, private, and hybrid cloud. At the same time, it can be classified as infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS), and software-as-a-service (SaaS) based on the service the cloud model offers.
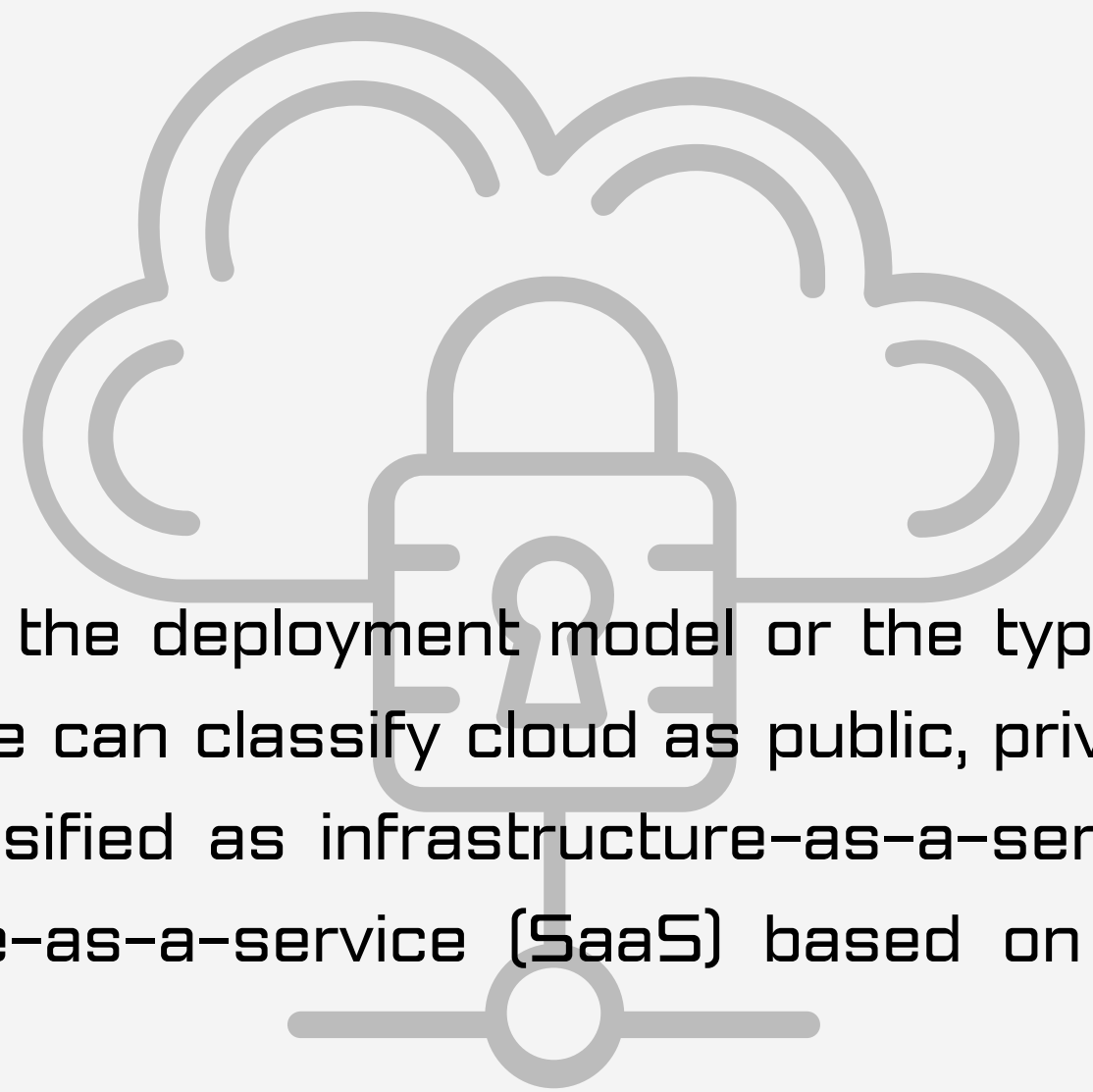
PUBLIC CLOUD

PRIVATE CLOUD

HYBRID CLOUD

PUBLIC CLOUD

Public cloud refers to computing services offered by third-party providers over the internet. Unlike private cloud, the services on public cloud are available to anyone who wants to use or purchase them. These services could be free or sold on-demand, where users only have to pay per usage for the CPU cycles, storage, or bandwidth they consume. Public clouds can help businesses save on purchasing, managing, and maintaining on-premises infrastructure since the cloud service provider is responsible for managing the system. They also offer scalable RAM and flexible bandwidth, making it easier for businesses to scale their storage needs.

PRIVATE CLOUD

In a private cloud, the computing services are offered over a private IT network for the dedicated use of a single organization. Also termed internal, enterprise, or corporate cloud, a private cloud is usually managed via internal resources and is not accessible to anyone outside the organization. Private cloud computing provides all the benefits of a public cloud, such as self-service, scalability, and elasticity, along with additional control, security, and customization. Private clouds provide a higher level of security through company firewalls and internal hosting to ensure that an organization's sensitive data is not accessible to third-party providers. The drawback of private cloud, however, is that the organization becomes responsible for all the management and maintenance of the data centers, which can prove to be quite resource-intensive.

HYBRID CLOUD

Hybrid cloud uses a combination of public and private cloud features. The "best of both worlds" cloud model allows a shift of workloads between private and public clouds as the computing and cost requirements change. When the demand for computing and processing fluctuates, hybrid cloudOpens a new window allows businesses to scale their on-premises infrastructure up to the public cloud to handle the overflow while ensuring that no third-party data centers have access to their data.

In a hybrid cloud model, companies only pay for the resources they use temporarily instead of purchasing and maintaining resources that may not be used for an extended period. In short, a hybrid cloud offers the benefits of a public cloud without its security risks.

MULTIPLE CHOICE

COMMON COMPUTER VERBS

DRAG

Drag the file to the folder to keep it safe

DROP

Drag and drop any image into the search box on images.google.com to help determine whether a photo is fake.

TYPE

I can type very fast

DELETE

We have to delete all of these files to get more space

SELECT

Open the app and select the producto you want to buy

SCROLL

Scroll down if you want to see more information

USEFUL PRE-READING VOCABULARY

Inventor

someone who creates or designs something new.

Pioneer

someone who creates or designs something new.

Computer programmer

someone who writes programs for computers.

Engineering

someone who writes programs for computers.

Analytical engine

a name for an early type of mechanical computer.

Translate

express the sense of (words or text) in another language.

Ada Lovelace: The First Computer Programmer

Long ago, before the Internet, smartphones, or even TVs, there lived a brilliant woman named Ada Lovelace. Ada was born in London on December 10 in 1815. She was the daughter of a famous poet, Lord Byron, and her mother loved mathematics. Ada grew up loving both poetry and math, a perfect mix for a future inventor!

Ada was a curious child with a big imagination. She loved machines and often tried to invent new ones. At 17, she met Charles Babbage, a mathematician and inventor. Babbage was working on a special machine called the "Analytical Engine." It was like an early computer, but it worked with gears and steam!

Babbage's machine was amazing. It could do math problems much faster than people. Ada was fascinated. She thought, "What if this machine could do more than just math?" This question changed everything.

In 1843, Ada had a big task. She translated an article about Babbage's machine from French to English. But Ada did more than just translate. She added her own notes, which were longer than the original article!

These notes were very special. Ada explained how the Analytical Engine could work on different kinds of problems, not just math. She wrote instructions for the machine. These instructions are what we now call a "program."

Ada's program was for a math problem called the Bernoulli numbers. It was the first time anyone had written a program for a machine. That's why Ada Lovelace is often called the first computer programmer; she was the first person to see that a machine could do all sorts of things with the right instructions.

Sadly, Babbage's Analytical Engine was never completed; but Ada's ideas lived on. She believed that machines could create music and art, not just do math. She even thought machines could play chess! Her vision was like what computers do today.

Ada Lovelace died young, at 36 years old, but her ideas were very important. People later used her notes to help build modern computers. Ada showed the world that imagination and science can work together.

Today, Ada Lovelace is a hero to many people who work with computers. Every year, on the second Tuesday of October, we celebrate Ada Lovelace Day. It's a day to remember her and all the women in science, technology, engineering, and math.

Ada's story is not just about math and machines. It's about a dream. Ada dreamed about a world where machines could do amazing things. Now, we live in that world; we have computers that help us in so many ways. And it all started with Ada's dream and her program.

So, the next time you use a computer, think of Ada Lovelace. She was a pioneer, a dreamer, and the very first computer programmer. Her story reminds us that with curiosity, imagination, and hard work, we can turn dreams into reality.

READING ACTIVITY

MULTIPLE CHOICE