# DEPARTMENT OF

# COMPUTER SCIENCE & APPLICATIONS

# STUDENT SEMINARS

## Pingle Govt. College for Women (A), Waddepally

AUTONOMOUS

HANUMAKONDA -506370, TELANGANA

# STUDENT SEMINARS

Nowadays everything is getting advanced every second of time. Everyday starts with something new. Whatever be the field, everything is getting advanced. Lots of research and studies are carried out various subjects around the world. These updates on various fields cannot be included in the student curriculum. The students have to always keep their eyes on what new things are arriving day by day. This is where the seminars are of great importance. Seminars are capable of keeping the students updated with the technologies. Seminars provide latest information about the things which are happening in science and technology. Students cannot improve their knowledge from textbooks alone. They must be take part in various seminars on latest topics.

Seminars also help them to convey their own ideas to their friends and teachers. They will start thinking about new things which they think could be implemented practically.

Making students take seminars on the subject topics would always help them more to understand the subject. This would give them a chance to collect more information about the seminar topic they are provided with. The result is that they would learn the subject well. Because they have to acquire knowledge about the subject of their own. There are also many advantages apart from acquiring knowledge. By taking seminars in front of their teachers and friends, the students will be able to talk before a crowd later in their life without any difficulty. Also they can learn their mistakes and can improve their seminar presentation skills. It is actually a great chance for the students to improve their skills within their curriculum. They can improve their language. By taking seminars they will become very able to interact with the people which will turn out to be useful in their later life. There is a wide spread impression about seminars.

# STUDENT CENTRIC METHODS OF LEARNING

# ACADEMIC YEAR 2022-2023

| S.No | Date | Topic | Name(s) of the lecturer(s) involved | Student Name | No. of students participated |
|---|---|---|---|---|---|
| 1 | 8-11-2023 | Memory Hierarchy | P.Bharathi | Ade.Rani | 26 |
| 2 | 8-11-2023 | Secondary storage devices | P.Bharathi | Godari.Anjali | 25 |
| 3 | 4-11-2023 | Strategies of Business Management | T.Aruna | Bolli Allowokika | 35 |
| 4 | 4-11-2023 | Stages of Growth | T.Aruna | Kotham Jahnavi | 45 |
| 5 | 4-11-2023 | Information Management System | T.Aruna | Katakam.Navya | 36 |
| 6 | 30-10-2023 | Advantages of DDBMS | P.Prathibha | MD.Parveen | 10 |
| 7 | 30-10-2023 | Introduction to DDBMS | P.Prathibha | Thaviti.Rani | 9 |
| 8 | 30-10-2023 | File Organization | P.Prathibha | Oruganti Akhila | 25 |
| 9 | 21-09-2023 | Linux System | B.Swarnalatha | KOKKONDA RUTHIKA | 20 |
| 10 | 23-09-2023 | Types of Files in Python | B.Swarnalatha | Vanam Akshaya | 50 |
| 11 | 23-09-2023 | Data Acquisition | B.Swarnalatha | Kammala Savitha | 38 |

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| 12 | 23-09-2023 | Files in Python | P.Bharathi | Kalmala .Divya | 26 |
| 13 | 23-09-2023 | Data Analysis Sequence | P.Bharathi | Nampally.Soumya | 35 |
| 14 | 01-04-2023 | List | T.Aruna | Daravath Sangeetha | 26 |
| 15 | 01-0402023 | Control Structure | B.Swarnalatha | Lavudya.Ishwariya | 21 |
| 16 | 09-02-2023 | Computer networks | P.Prathibha | Humera Yasmeen | 21 |
| 17 | 09-02-2023 | Difference between structure and Union | T.Aruna | Samanu.Akhila | 26 |
| 18 | 09-02-2023 | Categories of Function | P.Prathibha | Ch.Rajeshwari | 28 |
| 19 | 09-02-2023 | Arrays and its Types | B.Swarnalatha | Mugala .Poojitha | 34 |
| 20 | 24-01-2023 | Structure of C Programming | P.Bharathi | Avanthi | 31 |
| 21 | 24-01-2023 | Programming Languages | P.Bharathi | Ellakula Ashwitha Patel | 26 |
| 22 | 24-01-2023 | Topology | B.Swarnalatha | Nerella Punyasri | 26 |
| 23 | 24-01-2023 | Algorithms | T.Aruna | A.Sravanthi | 26 |
| 24 | 24-01-2023 | Flow Charts | P.Prathibha | Gatike Suvarna | 14 |
| 25 | 06-12-2022 | OOPS Features | P.Bharathi | Tusse Vishesha | 18 |
| 26 | 06-12-2022 | Java Features | B.Swarnalatha | N.Meghana | 30 |

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| 27 | 06-12-2022 | Inheritance | T.Aruna | G.Rama Anjali | 35 |
| 28 | 06-12-2022 | Applet | P.Prathibha | Sri Nayana | 22 |
| 29 | 06-12-2022 | Exceptions | T.Aruna | K.Shiva Pavani | 26 |
| 30 | 01-12-2022 | Stack | P.Prathibha | Rajeshwari | 26 |
| 31 | 01-12-2022 | Tree | P.Bharathi | M.Nandini | 26 |
| 32 | 01-12-2022 | Linked List | B.Swarnalatha | T.Shirisha | 14 |
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# Memory Hierarchy

## Memory Hierarchy Design and its Characteristics

Memory Hierarchy is one of the most required things in Computer Memory as it helps in optimizing the memory available in the computer. There are multiple levels present in the memory, each one having a different size, different cost, etc. Some types of memory like cache, and main memory are faster as compared to other types of memory but they are having a little less size and are also costly whereas some memory has a little higher storage value, but they are a little slower. Accessing of data is not similar in all types of memory, some have faster access whereas some have slower access.

## Types of Memory Hierarchy

This Memory Hierarchy Design is divided into 2 main types:

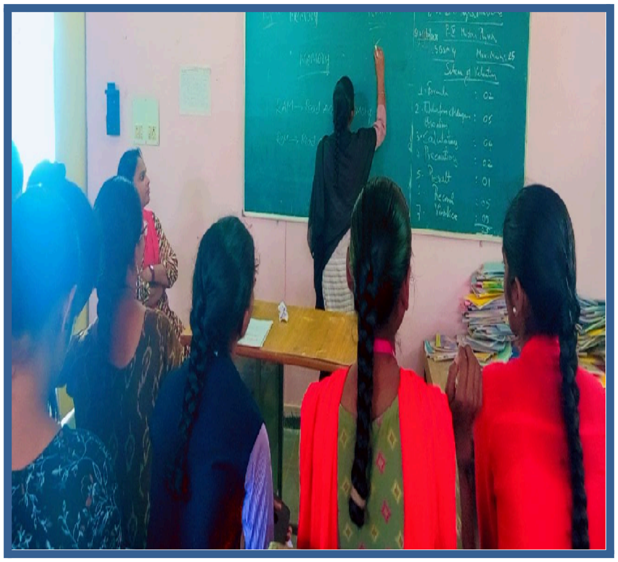
- **External Memory or Secondary Memory:** Comprising of Magnetic Disk, Optical Disk, and Magnetic Tape i.e. peripheral storage devices which are accessible by the processor via an I/O Module.
- **Internal Memory or Primary Memory:** Comprising of Main Memory, Cache Memory & CPU registers. This is directly accessible by the processor.

## Characteristics of Memory Hierarchy

- **Capacity:** It is the global volume of information the memory can store. As we move from top to bottom in the Hierarchy, the capacity increases.
- **Access Time:** It is the time interval between the read/write request and the availability of the data. As we move from top to bottom in the Hierarchy, the access time increases.
- **Performance:** Earlier when the computer system was designed without a Memory Hierarchy design, the speed gap increased between the CPU registers and Main Memory due to a large difference in access time. This results in lower performance of the system and thus, enhancement was required. This enhancement was made in the form of Memory Hierarchy Design because of which the performance of the system increases.
- **Cost Per Bit:** As we move from bottom to top in the Hierarchy, the cost per bit increases i.e. Internal Memory is costlier than External Memory.

## Advantages of Memory Hierarchy

- It helps in removing some destruction, and managing the memory in a better way.
- It helps in spreading the data all over the computer system.
- It saves the consumer's price and time.



# BUSINESS STRATEGY:

## BUSINESS STRATEGY

Business strategy is the strategic initiatives a company pursues to create value for the organization and its stakeholders and gain a competitive advantage in the market. This strategy is crucial to a company's success and is needed before any goods or services are produced or delivered.

According to Harvard Business School Online's Business Strategy course, an effective strategy is built around three key questions:

1. How can my business create value for customers?
2. How can my business create value for employees?
3. How can my business create value by collaborating with suppliers?

## The Importance of Business Strategy

A business strategy is foundational to a company's success. It helps leaders set organizational goals and gives companies a competitive edge. It determines various business factors, including:

- Price: How to price goods and services based on customer satisfaction and cost of raw materials
- Suppliers: Whether to source materials sustainably and from which suppliers
- Employee recruitment: How to attract and maintain talent
- Resource allocation: How to allocate resources effectively

Without a clear business strategy, a company can't create value and is unlikely to succeed.

## CREATING VALUE

To craft a successful business strategy, it's necessary to obtain a thorough understanding of value creation. In the online course Business Strategy, Harvard Business School Professor Felix Oberholzer-Gee explains that, at its core, value represents a difference. For example, the difference between a customer's willingness to pay for a good or service and its price represents the value the business has created for the customer. This difference can be visualized with a tool known as the value stick.

# DataBase Management System

## Advantages of DDBMS

- The database is easier to expand as it is already spread across multiple systems and it is not too complicated to add a system.
- The distributed database can have the data arranged according to different levels of transparency i.e data with different transparency levels can be stored at different locations.
- The database can be stored according to the departmental information in an organisation. In that case, it is easier for a organisational hierarchical access.
- there were a natural catastrophe such as fire or an earthquake all the data would not be destroyed it is stored at different locations.
- It is cheaper to create a network of systems containing a part of the database. This database can also be easily increased or decreased.
- Even if some of the data nodes go offline, the rest of the database can continue its normal functions.

## Disadvantages of DDBMS

- The distributed database is quite complex and it is difficult to make sure that a user gets a uniform view of the database because it is spread across multiple locations.
- This database is more expensive as it is complex and hence, difficult to maintain.
- It is difficult to provide security in a distributed database as the database needs to be secured at all the locations it is stored. Moreover, the infrastructure connecting all the nodes in a distributed database also needs to be secured.
- It is difficult to maintain data integrity in the distributed database because of its nature. There can also be data redundancy in the database as it is stored at multiple locations.
- The distributed database is complicated and it is difficult to find people with the necessary experience who can manage and maintain it.

# File Handling in Python:

**File handling in Python**

File handling in Python is the process of reading from and writing to files using the built-in file objects. It allows developers to work with files to store and manipulate data.

**Types of file in file handling in Python**

The two main types of files in file handling in Python are text files and binary files. Text files store textual data in ASCII or Unicode format, while binary files store non-textual data such as images or audio files. To write file handling in Python, you can use the built-in open() function to create a file object, and then use the appropriate file methods to perform read/write operations. Once done, you should close the file using the close() method

**File operations in Python**

The file operations in Python include opening a file, reading from a file, writing to a file, appending to a file, seeking a specific position in a file, and closing a file. These operations allow developers to manipulate files and their contents in a variety of ways.

**Types of file operations**

A. There are several types of file operations in Python, including read, write, append, seek, flush, and truncate. These operations provide a wide range of functionality for working with files, making it easy to store, retrieve, and manipulate data stored in files.

# Programming Languages

## 1. Procedural programming languages

A procedural language follows a sequence of statements or commands in order to achieve a desired output. Each series of steps is called a procedure, and a program written in one of these languages will have one or more procedures within it. Common examples of procedural languages include:

- C and C++
- Java
- Pascal
- BASIC

## 2. Functional programming languages

Rather than focusing on the execution of statements, functional languages focus on the output of mathematical functions and evaluations. Each function–a reusable module of code–performs a specific task and returns a result. The result will vary depending on what data you input into the function. Some popular functional programming languages include:

- Scala
- Erlang
- Haskell
- Elixir
- F#

## 3. Object-oriented programming languages (OOP)

This type of language treats a program as a group of objects composed of data and program elements, known as attributes and methods. Objects can be reused within a program or in other programs. This makes it a popular language type for complex programs, as code is easier to reuse and scale. Some common object-oriented languages include:

- Java
- Python
- PHP
- C++
- Ruby

## Features of Java

- Object Oriented:
- Platform Independent
- Simple
- Architecture-neutral
- Java compiler
- Portable
- Robust
- Multithreaded
- Interpreted
- High Performance
- Distributed
- Dynamic

# Inheritance

### Need of Java Inheritance

- **Code Reusability:** The code written in the Superclass is common to all subclasses. Child classes can directly use the parent class code.
- **Method Overriding:** Method Overriding is achievable only through Inheritance. It is one of the ways by which Java achieves Run Time Polymorphism.
- **Abstraction:** The concept of abstract where we do not have to provide all details is achieved through inheritance. Abstraction only shows the functionality to the user.

### Important Terminologies Used in Java Inheritance

- **Class:** Class is a set of objects which shares common characteristics/ behavior and common properties/ attributes. Class is not a real-world entity. It is just a template or blueprint or prototype from which objects are created.
- **Super Class/Parent Class:** The class whose features are inherited is known as a superclass(or a base class or a parent class).
- **Sub Class/Child Class:** The class that inherits the other class is known as a subclass(or a derived class, extended class, or child class). The subclass can add its own fields and methods in addition to the superclass fields and methods.
- **Reusability:** Inheritance supports the concept of "reusability", i.e. when we want to create a new class and there is already a class that includes some of the code that we want, we can derive our new class from the existing class. By doing this, we are reusing the fields and methods of the existing class

### Java Inheritance Types

Below are the different types of inheritance which are supported by Java.

1. Single Inheritance
2. Multilevel Inheritance
3. Hierarchical Inheritance
4. Multiple Inheritance
5. Hybrid Inheritance

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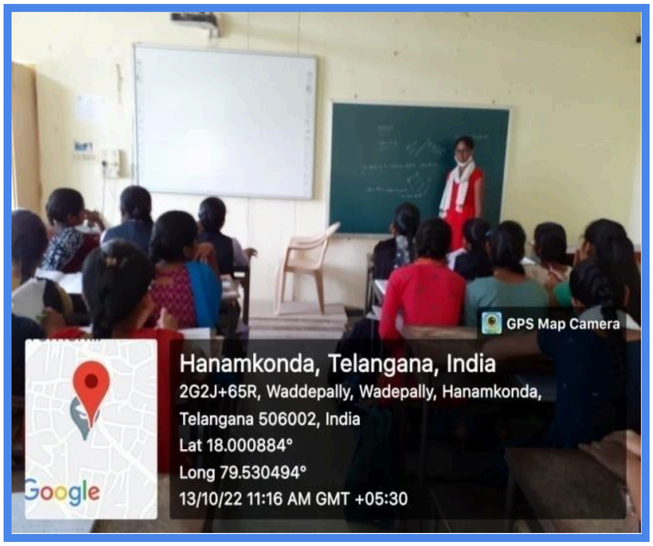

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# Applet

## Applet

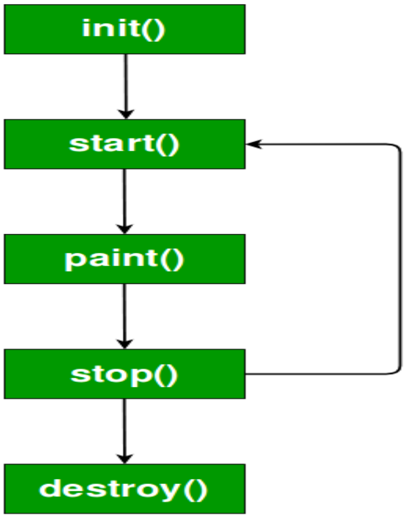
An applet is a Java program that can be embedded into a web page. It runs inside the web browser and works at client side. An applet is embedded in an HTML page using the APPLET or OBJECT tag and hosted on a web server.

Applets are used to make the website more dynamic and entertaining.

### Important points :

1. All applets are sub-classes (either directly or indirectly) of *java.applet.Applet* class.
2. Applets are not stand-alone programs. Instead, they run within either a web browser or an applet viewer. JDK provides a standard applet viewer tool called applet viewer.
3. In general, execution of an applet does not begin at main() method.
4. Output of an applet window is not performed by *System.out.println()*. Rather it is handled with various AWT methods, such as *drawString()*.

### Life cycle of an applet :



# Exceptions

**Exception Handling** in Java is one of the effective means to handle runtime errors so that the regular flow of the application can be preserved. Java Exception Handling is a mechanism to handle runtime errors such as ClassNotFoundException, IOException, SQLException, RemoteException, etc

**In Java, Exception** is an unwanted or unexpected event, which occurs during the execution of a program, i.e. at run time, that disrupts the normal flow of the program's instructions. Exceptions can be caught and handled by the program. When an exception occurs within a method, it creates an object. This object is called the exception object. It contains information about the exception, such as the name and description of the exception and the state of the program when the exception occurred.

**Major reasons why an exception Occurs**

- Invalid user input
- Device failure
- Loss of network connection
- Physical limitations (out-of-disk memory)
- Code errors
- Opening an unavailable file

**Errors** represent irrecoverable conditions such as Java virtual machine (JVM) running out of memory, memory leaks, stack overflow errors, library incompatibility, infinite recursion, etc. Errors are usually beyond the control of the programmer, and we should not try to handle errors.

**Difference between Error and Exception**

Let us discuss the most important part which is the **differences between Error and Exception** that is as follows:

- **Error:** An Error indicates a serious problem that a reasonable application should not try to catch.
- **Exception:** Exception indicates conditions that a reasonable application might try to catch.

**Exception Hierarchy**

All exception and error types are subclasses of the class **Throwable**, which is the base class of the hierarchy. One branch is headed by **Exception**. This class is used for exceptional conditions that user programs should catch. NullPointerException is an example of such an exception. Another branch, **Error** is used by the Java run-time system(JVM) to indicate errors having to do with the run-time environment itself(JRE). StackOverflowError is an example of such an error.

# Stack

## Stack

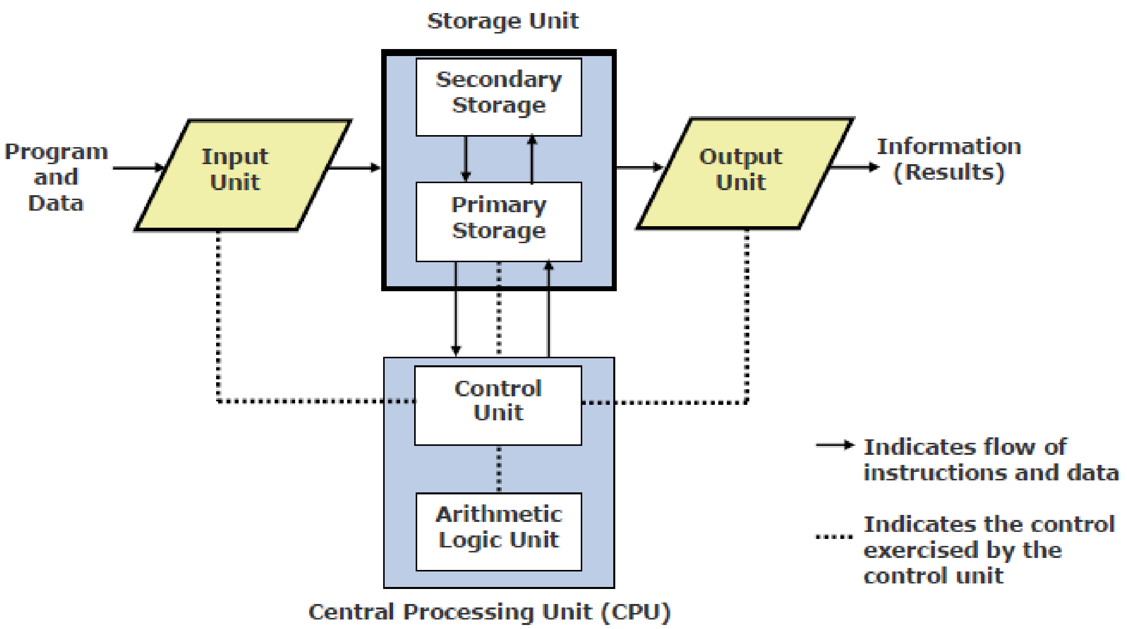
Stack is a linear data structure that follows a particular order in which the operations are performed. The order may be LIFO(Last In First Out) or FILO(First In Last Out). LIFO implies that the element that is inserted last, comes out first and FILO implies that the element that is inserted first, comes out last.

There are many real-life examples of a stack. Consider an example of plates stacked over one another in the canteen. The plate which is at the top is the first one to be removed, i.e. the plate which has been placed at the bottommost position remains in the stack for the longest period of time. So, it can be simply seen to follow LIFO(Last In First Out)

# ACADEMIC YEAR 2021-2022

| S.No | Date | Topic | Name(s) of the lecturer(s) involved | Details of Student | No. of students participated |
|---|---|---|---|---|---|
| 1 | 6-09-2021 | Block Diagram of Computer | Maneesha | Adi Vinila | 26 |
| 2 | 6-09-2021 | Five Basic Operations of Computer System | Maneesha | Ajmeera Navya | 25 |
| 3 | 13-09-2021 | Multimedia Systems with features or characteristics | T.Aruna | Amgoth Mamatha | 35 |
| 4 | 13-09-2021 | Computer Graphics – 3D Translation Transformation | T.Aruna | Anumula Rachana | 45 |
| 5 | 5-10-2021 | Features of C++ | T.Aruna | Arkala Shireesha | 36 |
| 6 | 05-10-2021 | Inheritance in C++ | P.Prathibha | Badavath Shirisha | 10 |
| 7 | 01-11-2021 | Polymorphism | P.Prathibha | Banala Ravali | 9 |
| 8 | 01-11-2021 | Anchor Tag and Hyperlink | P.Prathibha | Banda Bhavika | 25 |
| 9 | 08-11-2021 | Linux System | B.Swarnalatha | Beesula Rashmitha | 20 |
| 10 | 08-11-2021 | Types of Files in Python | B.Swarnalatha | Bhukya Prashanthi | 50 |
| 11 | 25-11-2021 | Data Acquisition | B.Swarnalatha | Bhukya Sumalatha | 38 |

# Block Diagram of a Computer



**Input Unit-**
**An input unit of a computer system performs the following functions-**
1. It accepts (or read) data and instructions from the outside world (for example- in English)
2. It converts these data and instructions in computer acceptable form (i.e. into Binary/Coded Form)
3. It supplies the converted data and instructions to the computer system for further processing.

**Output Unit-**
**An output unit of a computer system performs the following functions-**
1. It accepts the results produced by the computer, which are in coded form and hence, cannot be easily understood by the user.
2. It converts these coded results to human acceptable (readable) form.
3. It supplies the converted results to outside world.

**Storage Unit-**
The storage unit of a computer system holds (or stores) the following-
1. Data and instructions required for processing (received from input devices)
2. Intermediate results of processing.
3. Final results of processing, before they are released to an output device.

**Central Processing Unit (CPU)**

- It is the brain of a computer system.
- It is responsible for controlling the operations of all other units of a computer system.
- It consists of an Arithmetic Logic Unit and Control Unit.

**Arithmetic Logic Unit (ALU)**
Arithmetic Logic Unit of a computer system is a place where the actual execution of instructions takes place during processing operation. It is responsible for performing all arithmetic operations (such as addition, subtraction, multiplication. division etc.) and logical operations (such as less than, greater than, equal to, etc.).

**Control Unit**
The Control Unit of a computer system manages and coordinates the operations of all other components of the computer system.

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# Multimedia Systems with features or characteristics

## Multimedia Systems:

A multimedia system is responsible for developing a multimedia application. A multimedia application is a bundle of different kinds of data. A multimedia computer system is one that can create, integrate, store, retrieve  delete two or more types of media materials in digital form, such as audio, image, video, and text information.

**Following are some major characteristics or features of a Multimedia System:**

### Very High Processing Power:

To deal with large amount of data, very high processing power is used.

### File System:

File system must be efficient to meet the requirements of continuous media. These media files requires very high-disk bandwidth rates. Disks usually have low transfer rates and high latency rates. To satisfy the requirements for multimedia data, disk schedulers must reduce the latency time to ensure high bandwidth.

### Input/Output:

In multimedia applications, the input and output should be continuous and fast. Real-time recording as well as playback of data are common in most of the multimedia applications which need efficient I/O.

### Operating System:

The operating system must provide a fast response time for interactive applications. High throughput for batch applications, and real-time scheduling,

### Storage and Memory:

Multimedia systems require storage for large capacity objects such as video, audio, animation and images. Depending on the compression scheme and reliability video and audio require large amount of memory.

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# Computer Graphics – 3D Translation Transformation

**3-D Transformation:** In very general terms a 3D model is a mathematical representation of a physical entity that occupies space. In more practical terms, a 3D model is made of a description of its shape and a description of its color appearance. 3-D Transformation is the process of manipulating the view of a three-D object with respect to its original position by modifying its physical attributes through various methods of transformation like Translation, Scaling, Rotation, Shear, etc.

**Properties of 3-D Transformation:**

- Lines are preserved,
- Parallelism is preserved,
- Proportional distances are preserved.

One main categorization of a 3D object's representation can be done by considering whether the surface or the volume of the object is represented:

Boundary-based: the surface of the 3D object is represented. This representation is also called b-rep. Polygon meshes, implicit surfaces, and parametric surfaces, which we will describe in the following, are common representations of this type.

Volume-based: the volume of the 3D object is represented. Voxels and Constructive Solid Geometry (CSG) Are commonly used to represent volumetric data.

**Types of Transformations:**

1. Translation
2. Scaling
3. Rotation
4. Shear
5. Reflection

**Translation:** It is the process of changing the relative location of a 3-D object with respect to the original position by changing its coordinates. Translation transformation matrix in the 3-D image Where $D_x$, $D_y$, $D_z$ are the Translation distances, let a point in 3D space is P(x, y, z) over which we want to apply Translation Transformation operation and we are given with translation distance [$D_x$, $D_y$, $D_z$]

# Features of C++

C++ is a general-purpose programming language that was developed as an enhancement of the C language to include an object-oriented paradigm. It is an imperative and **compiled** language. C++ has a number of features, including:

- Object-Oriented Programming
- Machine Independent
- Simple
- High-Level Language
- Popular
- Case-sensitive
- Compiler Based
- Dynamic Memory Allocation
- Memory Management
- Multi-threading

## 1. Object-Oriented Programming

C++ is an Object-Oriented Programming Language, unlike C which is a procedural programming language. This is the most important feature of **C++**. It can create/destroy objects while programming. Also, It can create blueprints with which objects can be created. Concepts of Object-oriented programming Language:

- Class
- Objects
- Encapsulation
- Polymorphism
- Inheritance
- Abstraction

## 2. Machine Independent

A C++ executable is not platform-independent (compiled programs on Linux won't run on Windows), however, they are machine-independent. Let us understand this feature of C++ with the help of an example. Suppose you have written a piece of code that can run on Linux/Windows/Mac OSx which makes the C++ Machine Independent but the executable file of the C++ cannot run on different operating systems.

## 3. Simple

It is a simple language in the sense that programs can be broken down into logical units and parts, has rich library support and has a variety of data types. Also, the Auto Keyword of C++ makes life easier.

## 4. High-Level Language

C++ is a High-Level Language, unlike C which is a Mid-Level Programming Language. It makes life easier to work in C++ as it is a high-level language it is closely associated with the human-comprehensible English language.

## 5. Popular

C++ can be the base language for many other programming languages that supports the feature of object-oriented programming. **Bjarne Stroustrup** found Simula 67, the first object-oriented language ever, lacking simulations, and decided to develop C++.

## 6. Case-sensitive

It is clear that C++ is a case-sensitive programming language. For example, **cin** is used to take input from the input stream. But if the **“Cin”** won’t work. Other languages like HTML and MySQL are not case-sensitive languages.

**7. Compiler Based**

C++ is a compiler-based language, unlike Python. That is C++ programs used to be compiled and their executable file is used to run them. C++ is a relatively faster language than Java and Python.

**8. Dynamic Memory Allocation**

When the program executes in C++ then the variables are allocated the dynamical heap space. Inside the functions, the variables are allocated in the stack space. Many times, We are not aware in advance how much memory is needed to store particular information in a defined variable and the size of required memory can be determined at run time.

**9. Memory Management**

- C++ allows us to allocate the memory of a variable or an array in run time. This is known as Dynamic Memory Allocation.
- In other programming languages such as Java and Python, the compiler automatically manages the memories allocated to variables. But this is not the case in C++.
- In C++, the memory must be de-allocated dynamically allocated memory manually after it is of no use.
- The allocation and deallocation of the memory can be done using the new and delete operators respectively.

**10. Multi-threading**

- Multithreading is a specialized form of multitasking and multitasking is a feature that allows your system to execute two or more programs concurrently. In general, there are two sorts of multitasking: process-based and thread-based.
- Process-based multitasking handles the concurrent execution of programs. Thread-based multitasking deals with the multiprogramming of pieces of an equivalent program.
- A multithreaded program contains two or more parts that will run concurrently. Each part of such a program is named a thread, and every thread defines a separate path of execution.
- C++ doesn’t contain any built-in support for multithreaded applications. Instead, it relies entirely upon the OS to supply this feature.

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# Inheritance in C++

The capability of a class to derive properties and characteristics from another class is called **Inheritance**. Inheritance is one of the most important features of Object-Oriented Programming.
Inheritance is a feature or a process in which, new classes are created from the existing classes. The new class created is called "derived class" or "child class" and the existing class is known as the "base class" or "parent class". The derived class now is said to be inherited from the base class.

When we say derived class inherits the base class, it means, the derived class inherits all the properties of the base class, without changing the properties of base class and may add new features to its own. These new features in the derived class will not affect the base class. The derived class is the specialized class for the base class.

- **Sub Class:** The class that inherits properties from another class is called Subclass or Derived Class.
- **Super Class:** The class whose properties are inherited by a subclass is called Base Class or Superclass.

**<u>Types Of Inheritance:-</u>**

1. Single inheritance
2. Multilevel inheritance
3. Multiple inheritance
4. Hierarchical inheritance
5. Hybrid inheritance

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