Mr. Chaudhari Dhiraj Sanjay
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Career Objective:

Seeking the role of Mechanical Engineer Fresher where I would be given an opportunity to utilize the theoretical skills, sense of responsibility and efficiency to help the organization grow.

Academic Details:

❖ Mechanical Engineering From JSPM Narhe Technical Campus, Pune.

➢ **Educational Qualification:**

Qualification	College/Institutes	Board/University	Year	Percentage/CGPA
BE	JSPM NTC, Pune.	SPPU	2019	8.77
TE	JSPM NTC, Pune.	SPPU	2018	8.11
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H.S.C	Indirabai Lalvani Jr.College, Jamner	Nashik Board	2015	67.32%
S.S.C	Macro Vision Academy School, Raver	CBSE Board	2013	85.05%

Academic Project:

➢ **BE**

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The Vortex Tube is device working on vortex principle.it use for spot cooling, refrigeration by using compressed air. It is cheap than VCR refrigeration.

Internship:

- MD Engineering Works, Narhe, Pune.
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- Quick learner and fast decision making which are in favor of organization.

Certification:

- Paper publication in INTERNATIONAL ENGINEERING RESEARCH JOURNAL (IERJ).
- Participated In Unified Cyber Olympiad-2012 Conducted Nation Wide.

Computer Proficiency & Software Known:

- Ansys.
- CatiaV5.
- Microsoft Office.

Personal Details :

NAME: DHIRAJ SANJAY CHAUDHARI

DATE OF BIRTH: 28/04/1997

GENDER: MALE

NATIONALITY: INDIAN

LANGUAGE: HINDI, ENGLISH, MARATHI

ADDRESS: AT POST - KHIRWAD , TAL-RAVER , DIST-JALGOAN

Declaration:

  I hereby declare that the above written particulars are true to the best of my Knowledge and belief.

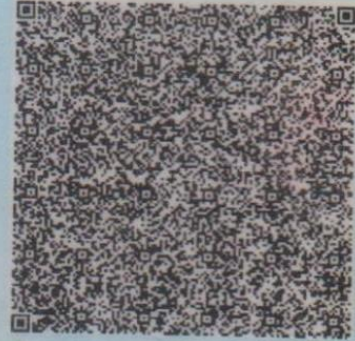 Date: Place: **DHIRAJ S. CHAUDHARI**

आयकर विभाग
INCOME TAX DEPARTMENT

भारत सरकार
GOVT. OF INDIA

स्थायी लेखा संख्या कार्ड
Permanent Account Number Card

BFNPC0895L

नाम / Name
DHIRAJ SANJAY CHAUDHARI

पिता का नाम / Father's Name
SANJAY SOPAN CHAUDHARI

जन्म की तारीख /
Date of Birth
28/04/1997

हस्ताक्षर / Signature

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MULTITHREADING IN JAVA

CONTENTS:-

- MUTITASKING.

- MULTIPROCESSING.

- MULTITHREADING.

- ADVANTAGES AND USES OF MULTITHREADING.

- WAYS OF CREATING THREADS.

- THREAD LIFECYCLE.

- METHODS IN THREADING.
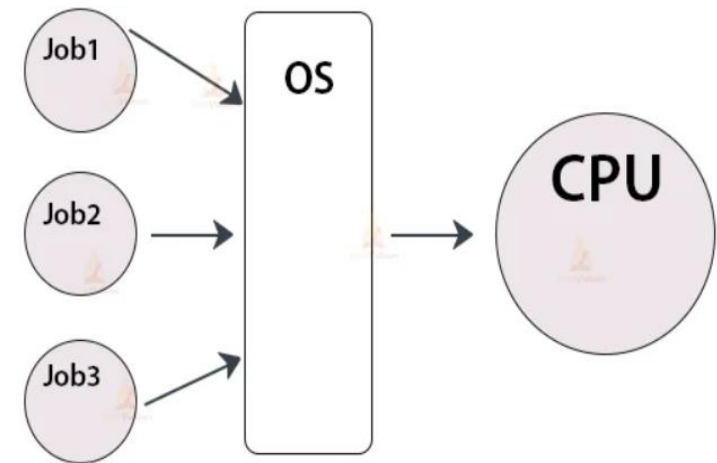
- SYNCHRONIZATION IN JAVA.

WHAT IS MULTITASKING?

- Performing Multiple Tasks At A Single Time Is Known As Multitasking.

- Multitasking Is An Operating System's Capability To Execute More Than One Task Or Job Simultaneously On A Shared Resource.

➢USE OF MULTITASKING:

- Increasing the performance of CPU.

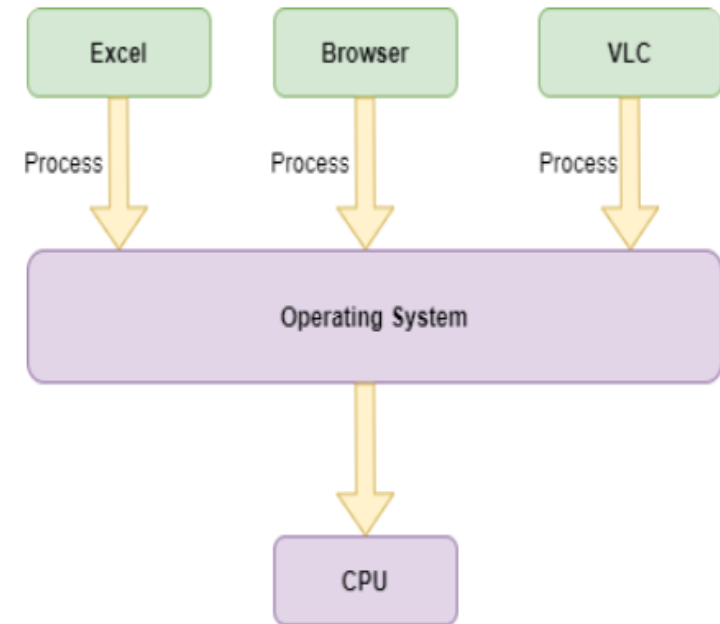**Multitasking in Java**

Job1 → OS

Job2 → OS → CPU

Job3 → OS

MUTITASKING CAN BE ACHIEVED IN TWO WAYS:-

1. Process-Based Multitasking(Multiprocessing).
2. Thread Based Multitasking(Multithreading).

MULTIPROCESSING:-

❖When one system is connected to multiple processors in order to complete the task.
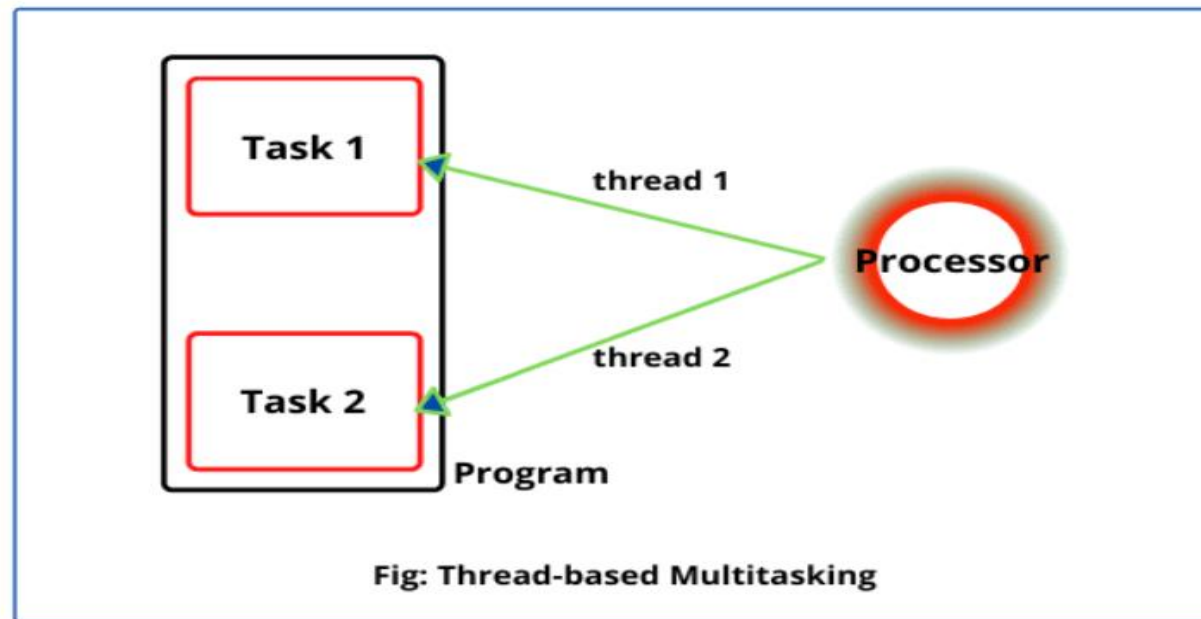
MUTITHREADING:-

- WHAT IS THREAD?
- ➤ It is a lightweight subprocess, It is the smallest unit of Processing.
- ▪ Executing Multiple threads at a Single time is called Multithreading.

Fig: Thread-based Multitasking

❖ADVANTAGES OF MULTITHREADING:-

1) It Doesn't block users because threads are independent & we can perform Multiple Operations at a time.

2) We can Perform Many Operations Together, So it Saves Time.

3) Threads Are Independent, So Doesn't Affect Other Thread Processes.

❖USES OF MULTITHREADING:-

1) Softwares.

2) Games & Animations.

HOW TO CREATE A THREAD?

- There are 2 ways to create a Thread.

1) By Extending Thread Class.
2) By Implementing Runnable Interface.

1)By Extending Thread Class:

• Steps of creating Thread By Extending Thread Class
1) Extends the Thread Class.
2) Override the run() Method & Provide Thread Task.
3) Create an object of Task.
4) Start the Thread By using Start() Method.

- Program of Creating a thread By extending Thread Class.

```
Class Test extends Thread
{
    public void run()
    {
      //Task:
    }
  public static void main(String []args)
  {
      Test obj=new Test();
        obj.start();
  }
}
```

1)By Implementing Runnable Interface:

• Steps of creating Thread By Implementing Runnable Interface.

1) Implements The Runnable Interface.

2) Override the run() Method & Provide Thread Task.

3) Create an object of Class First.

4) Create The Object of the Thread Class & pass the parameters in the constructor.

5) Start the Thread By using Start() Method.

- Program of Creating a thread By Implementing the Runnable Interface.

```
Class Test implements Runnable
{
    public void run()
    {
      //Task:
    }
  public static void main(String []args)
  {
      Test obj=new Test();
       Thread th=new Thread(obj);
        th.start();
  }
}
```

THREAD LIFECYCLE:-
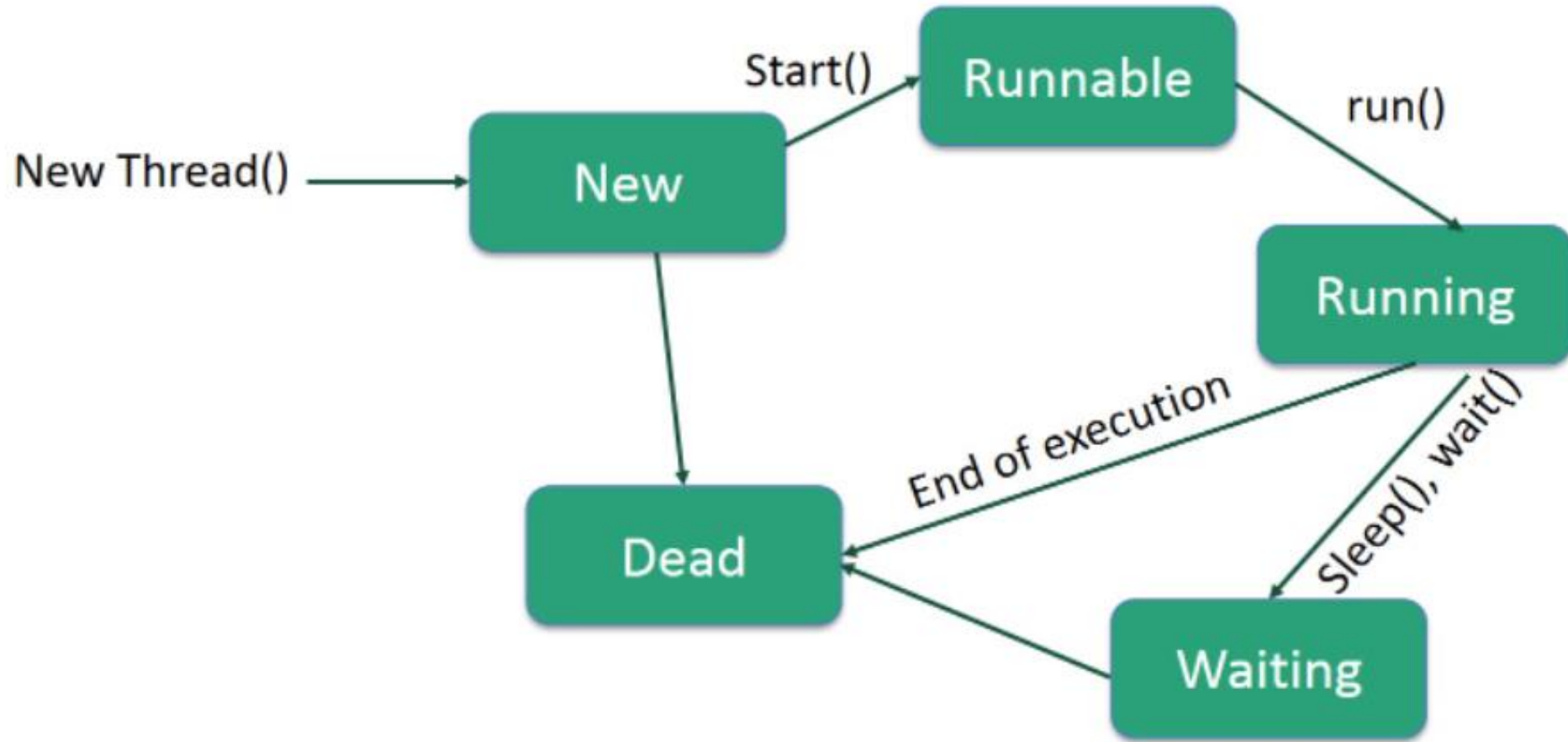
- Following are the stages of the life cycle −

- **New** − A new thread begins its life cycle in the new state. It remains in this state until the program starts the thread. It is also referred to as a **born thread**.
- **Runnable** − After a newly born thread is started, the thread becomes runnable. A thread in this state is considered to be executing its task.
- **Waiting** − Sometimes, a thread transitions to the waiting state while the thread waits for another thread to perform a task. A thread transitions back to the runnable state only when another thread signals the waiting thread to continue executing.
- **Timed Waiting** − A runnable thread can enter the timed waiting state for a specified interval of time. A thread in this state transitions back to the runnable state when that time interval expires or when the event it is waiting for occurs.
- **Terminated (Dead)** − A runnable thread enters the terminated state when it completes its task or otherwise terminates.

METHODS IN MUTITHREADING:-

❖BASIC METHODS:-

1. Run() method:– The specific task performed by thread is given in this method.

2. Start() method:- Starts the thread action.

3. CurrentThread() method:- It is a Static method that Provides Thread reference.

4. isAlive() method:- This method returns Boolean true or false.

❖NAMING METHODS:-

1. getName() method:- Method used for getting the name of Thread.
2. setName(String name) method:- Method used for changing the name of the thread.

❖DAEMON THREADS METHOD:-

1. SetDaemon(Boolean b) Method.
2. isDaemon() Method:- Returns True or false.

WHAT IS THE DAEMON THREAD?

- Thread That runs in the Background of another thread is called Deamon Thread.

❖USE OF DAEMON THREAD:-

- It provides services To threads.

- For eg:- Garbage collector is a daemon thread that provides the service to the main thread.

❖PRIORITY-BASED METHODS:-

➢Thread priority:- JVM will decide which thread will execute first.

• JVM Provides Priorities to Each Thread.

• Most Important Point Windows Doesn't Support Priority.

• Always results will change in case of windows Os.

1. Getpriority() method:- used for getting the default priority of the thread.

2. Setpriority() method:- used for setting the priority of the thread.

❖Stop Thread Execution Method:-

➢Sleep() method:- Stops thread Execution.

• Sleep method throws checked Inturruptedexception.

• Sleep method is Static and can be directly called by thread Class.

• It pauses the execution of the Current Running thread for some time.

• There is no guarantee thread wakes up exactly after a specified time it totally depends upon the thread Scheduler.

❖Prevent Thread Execution Methods:-

1. Yield() method:- It stops the currently executing thread & gives a chance to other threads for execution.

- Thread provides a hint to thread schedular, it depends on the thread Schedular to accept or ignore the hint(i.e. Output may vary).

2. Join() method:- If a thread wants to wait for another thread to complete its execution then we use the join () method.
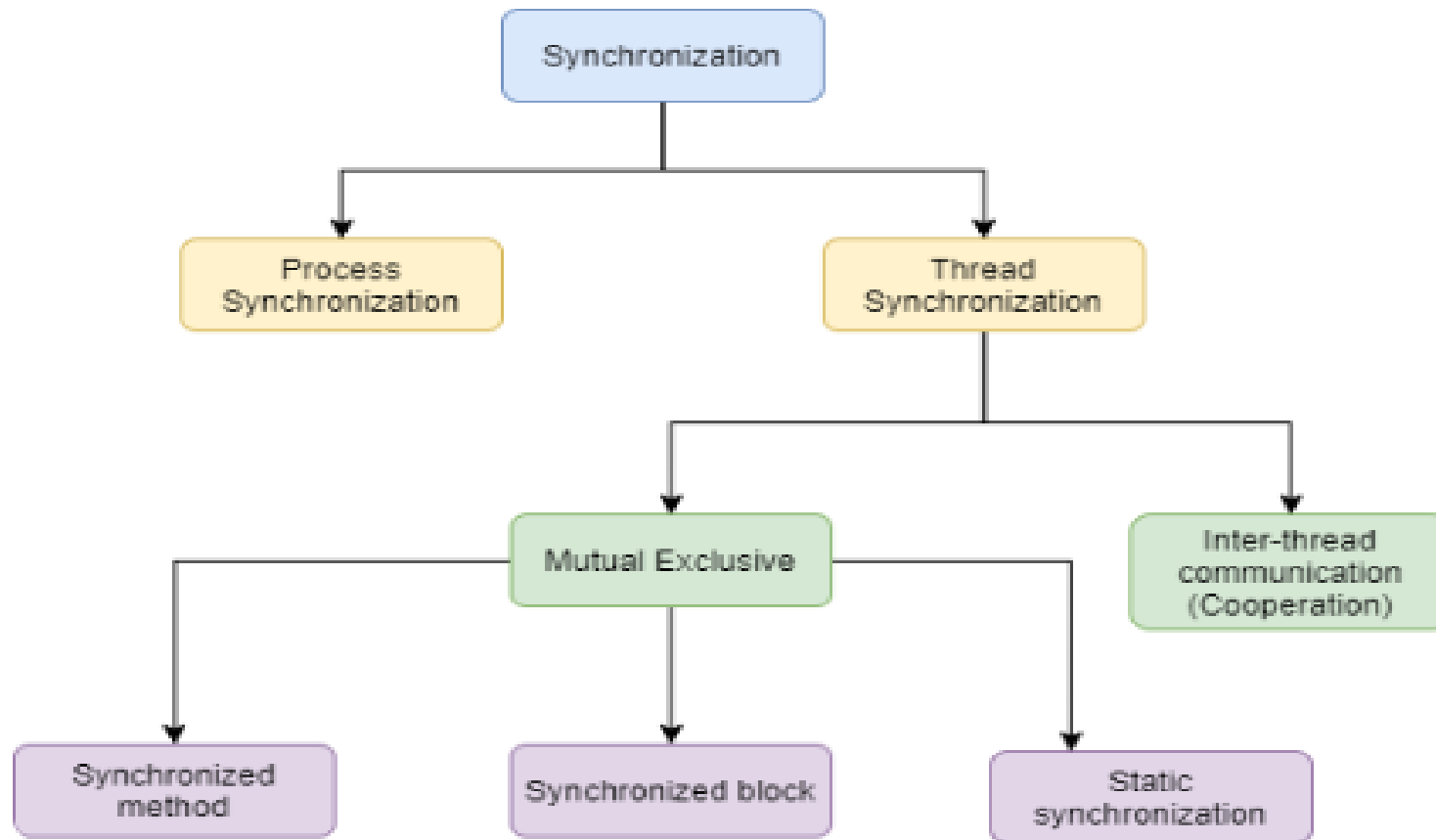
SYNCHRONIZATION IN JAVA

- It is a process by which we can control the accessibility of multiple threads to a particular shared resource.

➢Advantages of synchronization:-

1. No data inconsistency problem.

2. No thread Interference.

➢Disadvantages of synchronization:-

1. Increases the waiting time period of the thread.

2. Create performance Problems.

1. Synchronized Method:-If we use the Synchronized keyword before any method it will become Synchronized.

• Every object has a lock which is different for every object.

• In this Only one thread acquires the lock of obj and will

 execute while the other thread will wait to acquire

the lock.

Synchronised area

A synchronized area
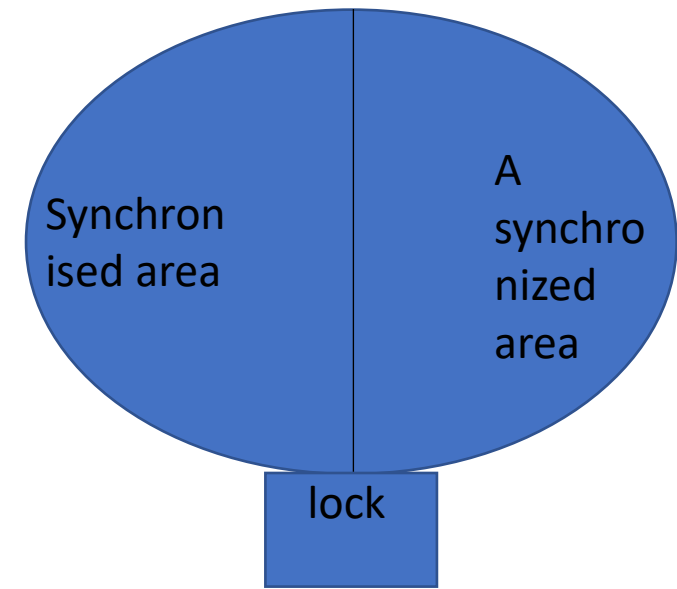
lock

2. Synchronized block:-

- If the code is of more than 1000 lines the first thread will execute it and another thread will wait it will increase the waiting time period for another thread and hence our process will become slow.

- So synchronized block is used, in this only essential code is provided in a synchronized block which decreases the waiting time for another thread and improves performance.

3. Static Synchronization:-

- It is used for class level lock in case of the Synchronized method and synchronized block we used on the lock on the object.

- It uses in case of multiple Objects in a class.

- It is used to avoid data inconsistency.

THANK YOU!