**Single Task Application:-**

Single Task Application is one at any cost it will perform only one task. ex:: Calculator App, CMD Prompt.

**Multi Task Application:-**

Multitasking application means at a same time we can perform more than two task simultaneously. ex:: Music Player, Gaming app, gmail etc.

We can perform multitasking by two ways -

1. **Processor**:-**Disadvantage** :- 1> Heavy Weight

2> Consumes More Memory

3> Costly

4> execution is slow

Because of disadvantage we will go for Threads.

1. **Thread Mode** :- Threads are low cost alternate to the processor. So for multitasking Threads are preferred.

* JVM will execute the program in thread mode.
* Also known as Parallel processing/execution or thread concurrency.

**Threads**

* Thread is nothing but executing /running instance which utilizes CPU time and memory efficiently for executing program.

Thread Object creation :- 1) By implementing Runnable <<interface>>.

2) By extending Thread <<class>>.

Thread Object Properties and methods-

Current Thread Object-

1. To Fetch the information of current thread object, currentThread () should be used.
2. currentThread () is a static method present in Thread Class.
3. currentThread () return type is Thread. i.e. Returns a reference to the currently executing thread object.
   * **sleep() method**- It is a method use to send executing thread object from running state to runnable state[sleeping state].

* It is a static method present in Thread class.

**Thread Life Cycle**-

**MultiThreading**- Running multiple threads simultaneously.

-Race Arround condition/output overlapping.

To overcome from this problem –

1) join()

2) ThreadSynchronization- It is a technique of executing multiple threads sequentially[one by one].

-synchronized keyword is used to perform Synchronization operation.

-If the method is declared as thread safe for multiple execution request the method will accept one request at a time by keeping other request

In waiting state.