

CHAPTER-9

MULTITHREADED PROGRAMMING

INTRODUCTION:

- Multi threading is a conceptual programming paradigm where a program is divided into two or more subprograms (processes), which can be implemented at the same time in parallel.
- A thread is similar to a program that has a single flow of control. It has a beginning, a body, and an end, and executes commands sequentially. In fact, all main programs in java can be thought of as single-threaded programs.
- A unique property of Java is its support for multithreading. That is, Java enables us to use multiple flows of control in developing programs. Each flow of control may be thought of as a separate tiny program (or module) known as a thread that runs in parallel to others

Creating threads in Java is simple. Threads are implemented in the form of objects that contain a method called run(). The run() method is the heart and soul of any thread; It makes up the entire body of a thread and is the only method in which the thread's behavior can be implemented. The run() method should be invoked by an object of the concerned thread. This can be achieved by creating the thread and initiating it with the help of another thread method called start().

A new thread can be created in two ways. 1. By creating a thread class: Define a class that extends Thread class and override its run() method with the code required by the thread. 2. By converting a class to a thread: Define a class that implements Runnable interface. The Runnable interface has only one method, run(), that is to be defined in the method with the code to be executed by the thread.

```
public void run( )  
{  
    .....  
    ..... (statements for implementing thread)  
    .....  
}
```