Multi Threading

Multi Tasking:

Executing several tasks simultaneously is the concept of multitasking.

There are 2 types of Multi Tasking
1. **Process based Multi Tasking**
2. **Thread based Multi Tasking**

1. Process based Multi Tasking:

Executing several tasks simmultaneously where each task is a seperate independent process is called process based multi tasking.

Eg: while typing python program in the editor we can listen mp3 audio songs from the same system. At the same time we can download a file from the internet. All these taks are executing simultaneously and independent of each other. Hence it is process based multi tasking.

This type of multi tasking is best suitable at operating system level.

2. Thread based MultiTasking:

Executing several tasks simultaneously where each task is a seperate independent part of the same program, is called Thread based multi tasking, and each independent part is called a Thread.

This type of multi tasking is best suitable at programmatic level.

Note: Whether it is process based or thread based, the main advantage of multi tasking is to improve performance of the system by reducing response time.

The main important application areas of multi threading are:
1. To implement Multimedia graphics
2. To develop animations
3. To develop video games
4. To develop web and application servers
etc...

Note: Where ever a group of independent jobs are available, then it is highly recommended to execute simultaneously instead of executing one by one.For such type of cases we should go for Multi Threading.

Python provides one inbuilt module "threading" to provide support for developing threads. Hence developing multi threaded Programs is very easy in python.