

"few questions"

Q1 what do you mean by multithreading. why is it important
⇒ multithreading means multiple threads and is considered one of the most important features of java. it is ability of CPU to execute multiple threads independently at same time but same process resources simultaneously. Its main purpose is to provide simultaneous execution of multiple threads to utilize CPU time as much as possible. It is a feature of java where one can subdivide the specific program into two or more threads to make the execution of program fast and easy.

Q2 what are the benefits of using multithreading?

⇒ The various benefits of multithreading are:-

- (1) It allows the program to run continuously even if a part of it is blocked.
- (2) It improves the performance as compared to traditional parallel programs that use multiple process.
- (3) It allows to write effective programs that utilize maximum CPU time and it saves time and parallelism task.

Q.3 What is thread in java?

→ A thread is a very light-weighted process or we can say the smallest part of process that allows a program to operate more efficiently by running multiple tasks simultaneously and separate flow of execution is called thread. If there is only one flow then it is called single threaded programming.

Q.4 What are the two ways of implementing thread in java?

→ There are basically two ways of implementing thread in java:

- (1) By extending thread class.
- (2) By implementing runnable interface.

Q.5 What is the difference between thread and process?

→ Thread simply refers to smallest unit of particular process. It has the ability to execute different parts of program at same time.

Process simply refers to a program that is in execution. A process can be handled using PCB (process control block).

Q.6 How can we create daemon threads?

→ The thread which is executing in background is called daemon thread. The main objective of daemon thread is to provide the support for main thread. We can create daemon thread using `Thread class set daemon`. It is used to mark current thread as daemon thread or user thread. `is daemon` method is used to check whether the thread is daemon or not. If the thread is daemon it will return true otherwise it returns false.

Q.7 What are the `walk()` and `sleep()` methods?

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⇒ wait() method is a non-static method that causes the current thread to wait and go to sleep until other threads call notify() or notifyAll() method for object's monitor. It simply releases lock and is mostly ^{used} for inter-thread communication. It is defined in object class and should only be called from synchronized context.

sleep() method is a static method that stops the execution of ~~program~~ ^{current thread} for some specified period. It does not release lock while waiting and is mostly used to introduce pause on execution. It is defined in thread class and no need to call from synchronized context.