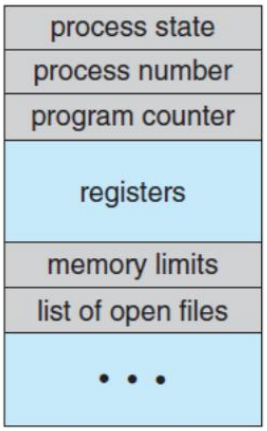
1. Write short note on Process Life cycle

The process life cycle can be defined by a state diagram which has states representing the execution status of process at various time and transitions that shows the changes in the execution status. To maintain the management information about a process the operating system uses the process control block (PCB)



A process changes its state during its execution which is called as the process life cycle. A process life cycle consists of five stages which are:

Sate	**Description**
New	The process which is being created
Running	Instructions being executed
Waiting	The process is waiting for an event to get occur
Ready	The process is waiting to be assigned to a processor
Terminated	The process completed its execution

2. What role does an operating system perform?

An **Operating System** acts as a communication bridge (interface) between the user and computer hardware. The purpose of an operating system is to provide a platform on which a user can execute programs in a convenient and efficient manner.

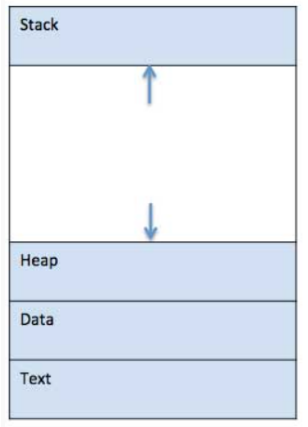
Important roles of operating systems are :

1. Managing applications
2. Managing memory
3. Handling input and output
4. Providing the user interface

3. What is a process?

A process is defined as an entity which represents the basic unit of work to be implemented in the system

When a program is loaded into the memory and it becomes a process, it can be divided into four sections – stack, heap, text and data. The following image shows a simplified layout of a process inside main memory –



4. What is the job of the long term scheduler

Long term scheduler is also known as a **job scheduler**. This scheduler regulates the program and select process from the queue and loads them into memory for execution. It also regulates the degree of multi-programming.

However, the main goal of this type of scheduler is to offer a balanced mix of jobs, like Processor, I/O jobs., that allows managing multiprogramming.

5. What is the response time

Response time measures the performance of an individual transaction or query. Response time is typically treated as the elapsed time from the moment that a user enters a command or activates a function until the time that the application indicates the command or function has completed.
Response time = Time at which the process gets the CPU for the first time - Arrival time