

## 1. Program execution:

- The operating system Loads program into memory
- It Handles the program's execution
- It Provides a mechanism for process synchronization
- It Provides a mechanism for process communication

## 2. I/O operations:

- OS manages the communication between the user and devices drivers.
- I/O operations are the read or write operations which are done with the help of input-output devices.
- Operating system give the access to the I/O devices when it required.

## 3. File system manipulation:

- The OS gives an access to the program for performing an operation on the file.
- The user can create/delete a file by using an interface provided by the OS.
- The backup of the file system can be created by using an interface provided by the OS.

## 4. Communication:

- The operating system manages communication between all the processes.

## 5. Error detection:

- The OS continuously checks for the possible errors.
- The OS takes an appropriate action to correct errors and consistent computing.

## 6. Resource allocation:

- The OS manages all kinds of resources using schedulers.
- CPU scheduling, Disk scheduling algorithm etc are used for better utilization.

## 7. Protection:

- The OS ensures that all access to system resources is controlled.
- The OS ensures that external I/O devices are protected from invalid access attempts.
- The OS provides authentication features for each user by means of passwords.