

- 1) write differences between nested classes and Inner classes. with minimum 5 differences
- 2) List the advantages of packages
- 3) List any 10 classes / interfaces of Java.io Package.

## Answers

Q1) Nested class :-

→ A nested class is any class 'inside' another class.

→ It can be static or non static

→ A static nested class cannot access non static members of outer class directly.

→ One can create an object of a static nested class without creating an object of the outer class.

→ Syntax example:

```
Outer.StaticNestedObj = new  
Outer.StaticNested();
```



## Inner class :-

- An inner class is a non static nested class.
- It is always non static.
- An inner class can directly access all members of outer class.
- One can create an object of the outer class before creating its inner class object.
- Example usage: Event handling, data hiding

## Q2) Advantages of Packages :-

- 1) Encapsulation and modularization -  
Packages help organize related classes and interfaces together and easy to maintain.
- 2) Ensures reusability of code -  
Once a package is created, its classes can be reused in other programs also.
- 3) Access Protection -  
Packages help control access to classes and members using access modifiers.



4) Provides with easy maintainance.

5) Gives a hierarchical structural approach which helps in improving the overall organization, clarity and scalability.

### Q3) Classes/Interfaces of java.io Package

1. File - represents files in the file system
2. FileInputStream - used to read bytes from file.
3. FileOutputStream - Used to write bytes to file.
4. FileReader - Used to read characters from file
5. FileWriter - Used to write characters to a file.
6. BufferedReader - Reads text from character input stream using buffering.
7. BufferedWriter - Writes text to a character output stream using buffering.
8. InputStreamReader - Converts byte streams into character streams
9. ObjectInputStream - Deserializes objects and primitive data from a stream.
10. ObjectOutputStream - Serializes objects and writes them to an output stream.