

Singleton Class

1. The class can have only one object at a time is referred as Singleton class.
2. To create singleton class, make use of private constructor in a class.
3. To get object of singleton class, make use of public member function i.e., method.
4. For example:

```
class A{  
    private static A obj=new A();  
    private A(){  
        System.out.println("Constructor invoked...");  
    }  
    public static A getA(){  
        return obj;  
    }  
}
```

Business Logic Class

1. The class which contains method which will methods to perform different operation in application.
2. For example:
Addition method which performs addition operation when its invoke, it get placed in business logic class called CalculatorOperation then it get from main method for execution.

User Logic Class

1. The class which contains main method or which will start execution of an application is referred as User Logic Class.
2. For example: To execute CalculatorOperation class methods, create Calculator class which contains main method.

DTO –

1. It is stands for data Transfer object.
2. It is used to transfer data from frontend of application to backend of application.
3. To create DTO make use of JAVA BEAN Class.
4. For each table of application, create separate JAVA BEAN class which consists all the column names of table as a private data member in class.
5. Provide access to all data members by using getters and setters methods.

DAO –

1. DAO stands for Data Access Object.
2. It is used to write a code, which performs operations on database.
3. For different Module of the application, we need to create different DAO.
4. To write JDBC code separately, programmer used this DAO.

Utility –

1. Utility is responsible to contains classes which start execution of programs.
2. All controllers are present in utility.

Controller –

1. Controller is mediator between frontend and backend code.
2. It is used process user requests and perform respective operations.
3. It is responsible to start execution of application.

Service –

1. To perform any operation other than database operation, programmer prefer service package.
2. Service package will contains classes which provide different service for application apart from database operation.