1.What is the difference between an object and class in java?
Class:Design or blueprint of object
>class is structure&naming conventions
>class is non-primitive datatype
>class is declared once
>Declared with the "class" keyword
>It have logical entity
>Example:blueprint or design of bike

Object:Real entity based on class/Instance of class
>Object is also non-primitive datatype
>Object can be created many times as per requirements
>Object can be created using "new" keyword
>Object is Physical entity
>Example:bike properties:name,color,year

2.What is inheritance in java,and how does it work?
Inheritance is a process where on object acquries the properties of another
>It makes the code simple,readable&reusable
>Inheritance enables creating generic super class & more specific sub class
>Subclass can have its additional specific attribute & methods
>classification of classes helps in handling complexity of application or Software
>example:
class person{} -----------It is a Super /base/parent class
class student extends person {}-----------then it is sub/derived/child class
>It have 5 types
1.single inheritance
2.Multilevel inheritance
3.Hierarachical inheritance
4.Multiple inheritance
5.Hybrid inheritance

3.What are the access modifiers in java,and what is their purpose?
It is scope/visibility of field,method,constructor or class
It have four types
1.private:we access within class,it can't acces from outside the class also provide security on data
2.public:we can access from anywhere(inside/outside),within the package and outside the package
3.protected:we can access within the subclass,it cannot access from outside the package
4.default:we can access varialbe entire class within packages
Main purpose is implement encapsulation,which separates the interface of type from its implementation.

4.Explain the concept of polymorphism in java.What are the four principle of oops?
Polymorphism allows to perform the same action in many different ways.
>Write a code that are easier to understand & reuse
>It take two different forms based user need,java allow to difine differnt

functionalities or method with same name
>Example:class person,person can be a father,employee, customer etc.
Types of Polymorphism
1.compiletime-Overloading/static binding
>same name method with different parameter
>method is to be called checking the method signature
>Argument should be different
>Co mplile time error occurs if compiler can't match the arguements or if more than is possible
2.Runtime-Overriding/dynamic binding
>method have same name as method in parent class
>Same name method with same parameter
>call to method is resolved at runtime depending on object reference upon which the method is invoked
>inheritance is must

Object Oriented Programming System have 4 principle
1.Encapsulation:Wrapping or binding up of data in single unit.
the attribute their data type & scope are generally hidden from objects of other classes.
2.Polymorphism:Polymorphism allows to perform the same action in many different ways.
3.Inheritance:Inheritance is a process where on object acquries the properties of another
4.Abstraction:Hiding internal details of object&showing only core functionality necessary for the user

5.What is encapsulation in java,and why is it important?
Encapsulation:Wrapping or binding up of data in single unit.
the attribute their data type & scope are generally hidden from objects of other classes.
Advantages:>Enhance security by protecting an object from unwanted access
>makes the code easy to maintain & sustain
It is important because it hide complex,lower-level data.
it prevent classes from accessing and changing fields and method of class, this also help to achieve data hiding.

6.Explain the concept of abstraction in java,and provide an example
Abstraction is Hiding internal details of object&showing only core functionality necessary for the user
>implement using abstract classes
ex:abstact class class_name
>define a common protocol
>Deferred method to make its purpose justified
>abstract classes are partical concreate & can't be instantiated.
>abstract classe have abstract method and Non Abstract Method
>Interface have only abstract method
>It can have fianl methid