What is object in java? Object Is an Instance of class and it has its own state and behavior. In real world we can say, Dog is object of Animal class which have different state like breed, color, name, hungry, etc and behavior like wagging tail, fetching, barking etc.

2 : What is class?A class is the blueprint or we can say template from which individual objects are created.

What is constructor? Constructor is a code block just like a method which is used to initialize the state of an object. It will be invoked at the time of object creation to construct the value for object.

What is default constructor?Answer : If there is not any constructor in class then java compiler creates default constructor. It is no argument constructor which initializes any uninitialized fields to their default values.

Constructor returns any value?Answer : Yes. It will return instance of current class (However we can not use return type with constructor).

What is the difference between static and not static variable?Answer : Main differences are as bellow.

Static variables are preceded by static keyword. For non-static variable, there is not any preceding keyword.

Memory is allocated for static variables at the time of class loading. Memory is allocated to non- static variables whenever an object is created.

Memory is allocated only once to static variables on class loading. Memory is allocated multiple time whenever a new object is created to non-static variables.

Static variable example : Collage name of students, Company name of employees..

7 : What is the difference between static and not static(Instance) method?Answer : Difference between static and non static method is as bellow.

Method declared with static keyword is static method. If Method declared without static keyword then it is instance method.

No need of object to call static methods. Object needed to call instance method.

Can not access non static stuff inside static methods directly. Opposite to it, We can access static and non static stuff directly inside instance method.

8 : What is inheritance in java?

Answer : In Java, Inheritance provides mechanism using which one object of child class can acquire all the properties and behaviors of parent object. It will crate IS-A relationship. Main usage of inheritance in java is for code re-usability and method overriding to achieve run-time polymorphism.

9 : Multiple inheritance is supported in java on class level? If No.. Why?Answer : No.. Multiple inheritance is not supported in java in case of class to simplify the language and reduce the complexity.

10 : What is method overriding in java?Answer : Method overriding is a feature which allows a child class or sub class to provide a specific implementation of a method which is already provided by one of its parent classes or super class. It is used for runtime polymorphism**.**

11 : Why main method is static?Answer : As we know, We can access static stuff without creating object of class. Because of static keyword with main method, Java virtual machine can directly call it without creating object of class. This way it will provide kind of root to start execution of program.

12 : What is method overloading?Answer : Method overloading is ability to create multiple methods with same in same class but with different signatures (different input parameters and types). Method names will be same but parameters will be different for all overloaded methods.

13 : What is constructor overloading?Answer : Same as method overloading, Single class can have multiple constructors with same name as class name but all have different signatures (different input parameters and types) is called constructor overloading. READ MORE about constructor overloading.

14 : Can we override static methods?Answer : We can declare static method with same signature in subclass but it will not behave as overridden method. So answer is No.. We can not override static methods as they are part of class not object.. You can override static methods but output will be different than the expected.

15 : How to reverse string in java?Answer : StringBuffer class has a method called reverse(). We can use it to reverse the string.

16 : Can we overload static methods? Answer : Yes.. There is not any restriction to overload static methods. We can overload static and non static methods in java. VIEW MORE on overloading in java.

17 : Can we use private member of parent class in sub class?Answer : No.. It will not allow to use private members like private method, variable of parent class in child class. Private members are accessible only inside same class. VIEW MORE about class modifiers.

18 : What is an interface in java?Answer : An interface is a blue print of a class which can hold abstract methods (Methods without implementation) only. It creates Rules To Follow structure for class where It Is Implemented. We can achieve 100% abstraction using interface in java. READ MORE about interface in java.

19 : Can we access protected method of parent class in sub class? Answer : Yes.. We can access protected members of parent class in all it's sub classes and classes within the same package. VIEW EXAMPLE on how to access protected method in sub class.

20 : What is an array in java?Answer : An array is container object in java which can hold fixed number of values of same type. VIEW ARTICLE on array.

21 : Explain System.out.println();Answer :

System : is a final class in java.lang package.

out : is a static member of system class. It is an instance of java.io.PrintStream. This stream is already open and ready to accept output data.

println : is a method of java.io.PrintStream .It is an overloaded method.

22 : Write program to print fibonacci series 0, 1, 1, 2, 3, 5, 8, 13, 21,...

Answer :

```
public class fibonaccci {
 public static void main(String[] args) {
  int f1 = 0;
  int f2 = 1;
  int sum = 0;
  for(int i=0; i<=21;){
   System.out.println(f1);
   sum = i+f2;
   f2=i;
   f1=sum;
   i=f1;
  }
 }
}
```

23 : Write program to get result of 52+42-32+22-12

```
Answer :public class SquareSum {
 public static void main(String[] args) {
    int sum = 0;
 for (int i=5;i>=1;i--){
   if(i%2!=0){
    if(sum<(i*i)){
     sum = (i*i)-sum;
    }else{
     sum = sum-(i*i);
    }
   }else{
    sum = sum+(i*i);
   }
  }
  System.out.println(sum);
 }
}
```

24 : What is return type of testng @DataProvider annotation method? Answer : It will return double object array Object[][].

25 : int x=10 and y=20. Swap both variable values without using any temp variable.

Answer :public class swapNumbers {

```
 public static void main(String[] args) {
  int x = 10; int y = 20;
 System.out.println("Before swapping x = " + x + " and y = " + y);
  x = x + y;
  y = x - y;
  x = x - y;
  System.out.println("After swapping x = " + x + " and y = " + y);
 }
}
```

26 : What is local variable in java?

Answer : Local variable is declared inside method or constructor and it is limited for that method or constructor only. View more detail on local variable in java.

Local Variable Example :

```
public class JavaVariable {

 public void Calc() {
  // Local Variables.
  int sum;
  int item1 = 5;
  int item2 = 7;
  sum = item1 + item2;
  System.out.println("Sum is : " + sum);
 }

 public static void main(String args[]) {
  JavaVariable j = new JavaVariable();
  j.Calc();
 }
}
```

27 : What is a Instance Variable in java?

Answer : Instance Variable is declared parallel to method or constructor in class. It is visible for all methods and constructors of that class. View more detail on instance variable in java.

Instance Variable Example :

```
public class JavaVariable {
 //Instance Variable.
 int sum;

 public void Calc() {
  // Local Variables.
  int item1 = 5;
  int item2 = 7;
  sum = item1 + item2;
  System.out.println("Sum is : " + sum);
 }

 public static void main(String args[]) {
  JavaVariable j = new JavaVariable();
  j.Calc();
 }
```

28 : What is a Class Variable in java?

Answer : Class variable is declared with static keyword in class parallel to methods and constructor. Class variable is initialized only once at the start of execution and destroyed on end of program. Class variable is also known as static variable. View more detail on class variable in java.

Class Variable Example :

```
public class JavaVariable {
 //Class Variable
 static String sumType = "Basket";
 //Instance Variable.
 int sum;
 public void Calc() {
  // Local Variables.
  int item1 = 5;
  int item2 = 7;
  sum = item1 + item2;
  System.out.println(sumType + " Sum is : " + sum);
 }
 public static void main(String args[]) {
  JavaVariable j = new JavaVariable();
  j.Calc();
 }
```

29 : What is the difference between instance variable and class variable?

Answer :Instance Variable :

It is unique to each instance of the class.

Declared without static modifier.

Memory allocation, loading and initialization is done at run time.

Static Variable :

It is shared by all instances of the class.

Declared with static modifier.

Memory allocation is done at compile time, loaded at load time and they are initialized at class initialization time.

30. What is access modifier in java?

Answer : Access modifiers allows us to set access levels for variables, methods, classes and constructors in java. We can control access levels using access modifiers in java. View more details on different access modifiers in java.

31 : What is default value of local variable.

Answer : There is not any default value of local variable. You must have to initialize it. View more details on local variables in java.

32 : Java support constructor inheritance?

Answer : No, Constructor inheritance is not supported in java. View more details on constructor in java.

33 : Which is super class of all other classes in java?

Answer : java.lang.Object is super class of all other classes in java.

34 : What is Encapsulation?

Answer : Encapsulation is process of packing code and data together In to a single Unit. View more details on Encapsulation in java.

35 : Write a program to reverse a string without using reverse function.

Answer : Program to reverse a string without using reverse function in java is as bellow.

```
package JAVAExamples;


public class StringReverse {

 public static void main(String[] args) {
  //String to reverse.

  String str = "This Is String.";

  String revstring = "";


  for (int i = str.length() - 1; i >= 0; --i) {

   //Start getting characters from end of the string.

   revstring += str.charAt(i);

  }


  System.out.println(revstring);

 }

}
```

36 : What is the difference between the Constructor and Method?

Answer : Main difference between the Constructor and Method is as bellow.

Constructor :

Name of the constructor must be same as class name.

Constructor must not have any return type.

It is used to initialize the state of an object.

It is not possible to call constructor directly. Constructors called implicitly when the new keyword creates an object.

Method :

Method name can be any.

Method must have return type.

It is used to expose behavior of an object.

Methods can be called directly.

Read more on Constructor and Method.

37 : What are the different types of types of constructors in java?

Answer : Mainly there are two types of constructors available in java.

Default Constructor : Constructor without parameter is called default constructor.

```
package JAVAExamples;

public class City {
 //Default Constructor
 City()
 {
  System.out.println("City is created");
 }
 public static void main(String args[]){
  City c=new City();
 }
}
```

Parameterized constructor : Constructor with parameter is called Parameterized constructor.

```
package JAVAExamples;

public class City {
 int id;
 String name;

 // parameterized Constructor
 City(int i, String n) {
  id = i;
  name = n;
 }

 void display() {
  System.out.println(id + " " + name);
 }

 public static void main(String args[]) {
  City c1 = new City(1, "New York");
  City c2 = new City(2, "London");
  c1.display();
  c2.display();
 }
}
```

Output :

```
1 New York
2 London
```

38 : Write a program for Fibonacci series in Java ?

Answer : Program for Fibonacci series is as bellow.

```
package JAVAExamples;
```

```
public class FibonacciSeries {
 public static void main(String args[]) {
  int x1 = 0, x2 = 1, x3, i, cnt = 15;
  // To print 0 and 1
  System.out.print(x1 + " " + x2);

  // loop starts from 2 as 0 and 1 are already printed.
  for (i = 2; i < cnt; ++i) {
   x3 = x1 + x2;
   System.out.print(" " + x3);
   x1 = x2;
   x2 = x3;
  }
 }
}
```

39 : Write a program to print below given pattern.

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

Answer : Program to print above pattern is as bellow.

```
package JAVAExamples;

public class Pattern {

 public static void main(String[] args) {
  for (int a = 1; a <= 5; a++) {
   for (int x = 1; x <= a; x++) {
    System.out.print(x+" ");
   }
   // To print new line.
   System.out.println();
  }
 }
}
```

40. What is the difference between this and super keywords in Java?

Answer : Difference is as bellow.

this keyword is used to store current object reference while super keyword is used to store super class object in sub class..

this is used to access methods of the current class while super is used to access methods of the base class.

this() used to call constructors in the same class whereas super() is used to call super class constructor.