Static keyword

Static keyword-

It is used for memory management.The static keyword always belongs to class instead of objects.So, we can directly call a variable or method with class name without creating an object of the class.

-> Static keyword bind at class loading time.

Static keyword can be used with [**variable, method, block, class**]

1. What is static variable-

A variable with a static keyword is a static variable. it takes memory only once and doesn't create a copy on object creation.

2. Why used static variable -

static variable used to save memory, it takes memory only once while class loading and sharing among all objects.

3. Realtime example of static variable -

College name will be common for every student so we can declare college name with static so that it takes memory only once and share among all students.

4. Where can we declare static variable -

We can only declare static variable at the class level because JVM loads it at the time of class loading.

5. How to access static variable -

We can access static variables with class name because static variables are related to class.

6. Is static variables mandatory to initialize during declaration -

No, Initialization of Static Variables is not Mandatory. Its default value is depending on the data type of variable.

7. When static variable load in JVM -

Static variable load in JVM during the class loading time.

8. Is copy creates of static variable -
 It doesn't create a copy for each object. It is associated with class not object. **static variables** are common for all the objects.

9. What is static pool -
It is the memory area that stores the static variables.

10. Static variable is class variable or object -
Static variable belongs to class not object.

11. Can we declare static variable inside method -
No, we can't declare a static variable inside a method because the method is related to the object and the static variable only loads at class loading time.

12. Can we declare static variable inside static method -
No, we can not declare a static variable inside a static method, because it must be accessible with class name.

13. Can we declare static variable inside static block -
No, we can't declare a static variable inside a static block.

14. Can we declare static variable inside constructor -
No, we can't declare a static variable inside a constructor because the constructor is related to the object and the static variable only loads at class loading time.

1.What is static method-
A method declared with a static keyword is known as a static method. It belongs to the class so we can call static methods by class name without creating an instance.

2. Do we need a object to call static methods-
No, the static method belongs to the class so we can directly access it with the class name without creating an object.

3. Can non-static method access inside static method-
    We have created an object to access non-static methods inside static methods, because static method loads at compile time and non-static methods are related to the object.

4. Can non-static variable access inside static method-
    We have created an object to access non-static variables inside static methods, because static method loads at compile time and non-static variables are related to the object.

5. Can static methods access inside static method-
    Yes, we can access.
6. Can static variable access inside static method-
    Yes, we can access.

7. Can static methods access inside non-static method-
    Yes, we can access.
8. Can static variable access inside non-static method-
    Yes, we can access.

9. Can "this" with static -
    "This" keyword refers to the current instance of the class and static does not belong to the instance. So, we can not use this keyword with static.
10. Can "super" with static -
    "super" keyword refers to the parent class instance and static does not belong to the instance. So, we can not use this keyword with static.

11. Can we create a block static -
    Yes, a block with static keyword is a static block,it is used to initialize static variables.

12. Do we need to write class_name to access static methods and data in the same class- We don't need to write class_name to access static methods in the same class.

13. Can constructor be static -
    No, constructor belongs to object creation and static load at compile time. So, constructors can not be static.

14. Can class be static -
Yes , the inner class can be static but the outer class can't be static.