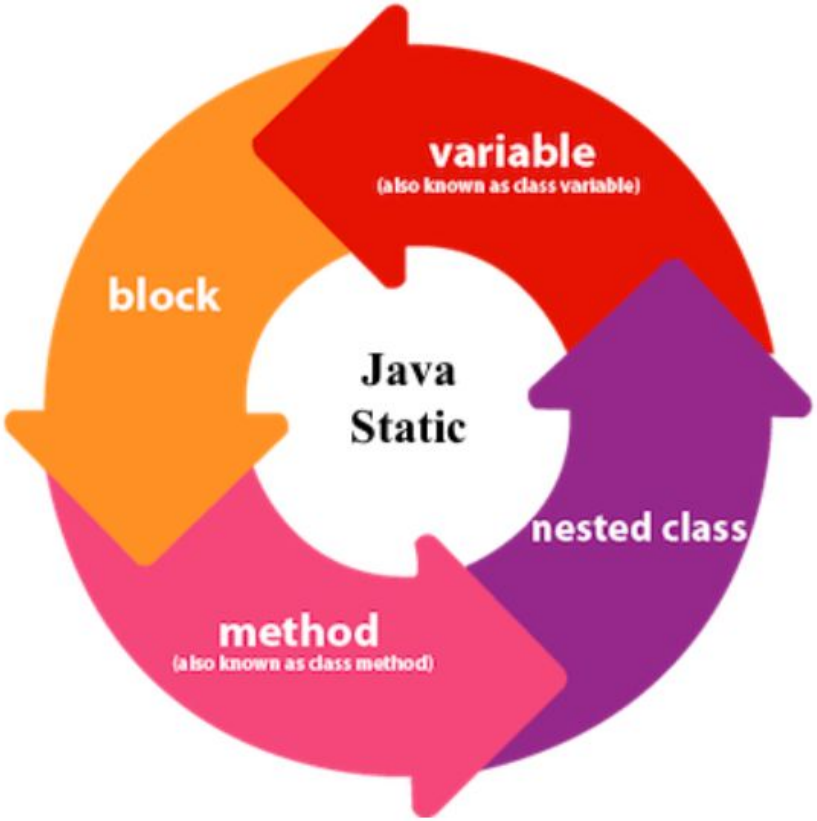
Static keyword

Static Keyword

1. static keyword in Java is used for memory management
2. The static keyword belongs to the class than an instance of the class.



Java static variable

1. Used to refer to the common property of all objects
2. Static variable gets memory only once in the class area at the time of class loading.
3. Advantages : memory efficient
4. class Student

```
{
    int rollno;
   String name;
   String college="ITS";
}
```

Java static variable - Program

```
class Student{
   int rollno;
   String name;
   static String college ="ITS";
   Student(int r, String n)
      {
        rollno = r;
        name = n;
      }
   void display ()
     {
       System.out.println(rollno+" "+name+" "+college);
     }
     public static void main(String args[]){
       Student s1 = new Student(111,"Karan");
       Student s2 = new Student(222,"Aryan");
       s1.display();
       s2.display();
 }
}
```

Java static method

1. A static method belongs to the class rather than the object of a class.
2. A static method can be invoked without the need for creating an instance of a class.
3. A static method can access static data member and can change the value of it.

Java static method

```
class Student{
   int rollno;
   String name;
   static String college ="ITS";
   Student(int r, String n){
        rollno = r;
        name = n;
      }
   static void change() {
         college = "BBDIT";
         }
   void display (){
       System.out.println(rollno+" "+name+" "+college);
     }
     public static void main(String args[]){
       Student s1 = new Student(111,"Karan");
       Student s2 = new Student(222,"Aryan");
       change();
       s1.display();
       s2.display();
 }
}
```

Restrictions for the static method

1. The static method can not use non static data member or call non-static method directly.
2. this and super cannot be used in static context.

Java static block

1. Is used to initialize the static data member.
2. It is executed before the main method at the time of classloading.

Java static block

```
class Demo
{
  static
  {
      System.out.println("static block is invoked");
  }
  public static void main(String args[])
  {
   System.out.println("Hello main");
  }
}
```

Java static block

```
class Student{
   int rollno;
   String name;
   static String college;
   static {
       college ="ITIS";
   }
   Student(int r, String n){
        rollno = r;
        name = n;
      }
   static void change() {
         college = "BBDIT";
         }
   void display (){
       System.out.println(rollno+" "+name+" "+college);
     }
     public static void main(String args[]){
       Student s1 = new Student(111,"Karan");
       Student s2 = new Student(222,"Aryan");
       change();
       s1.display();
       s2.display();
 }
}
```