Department: BCA
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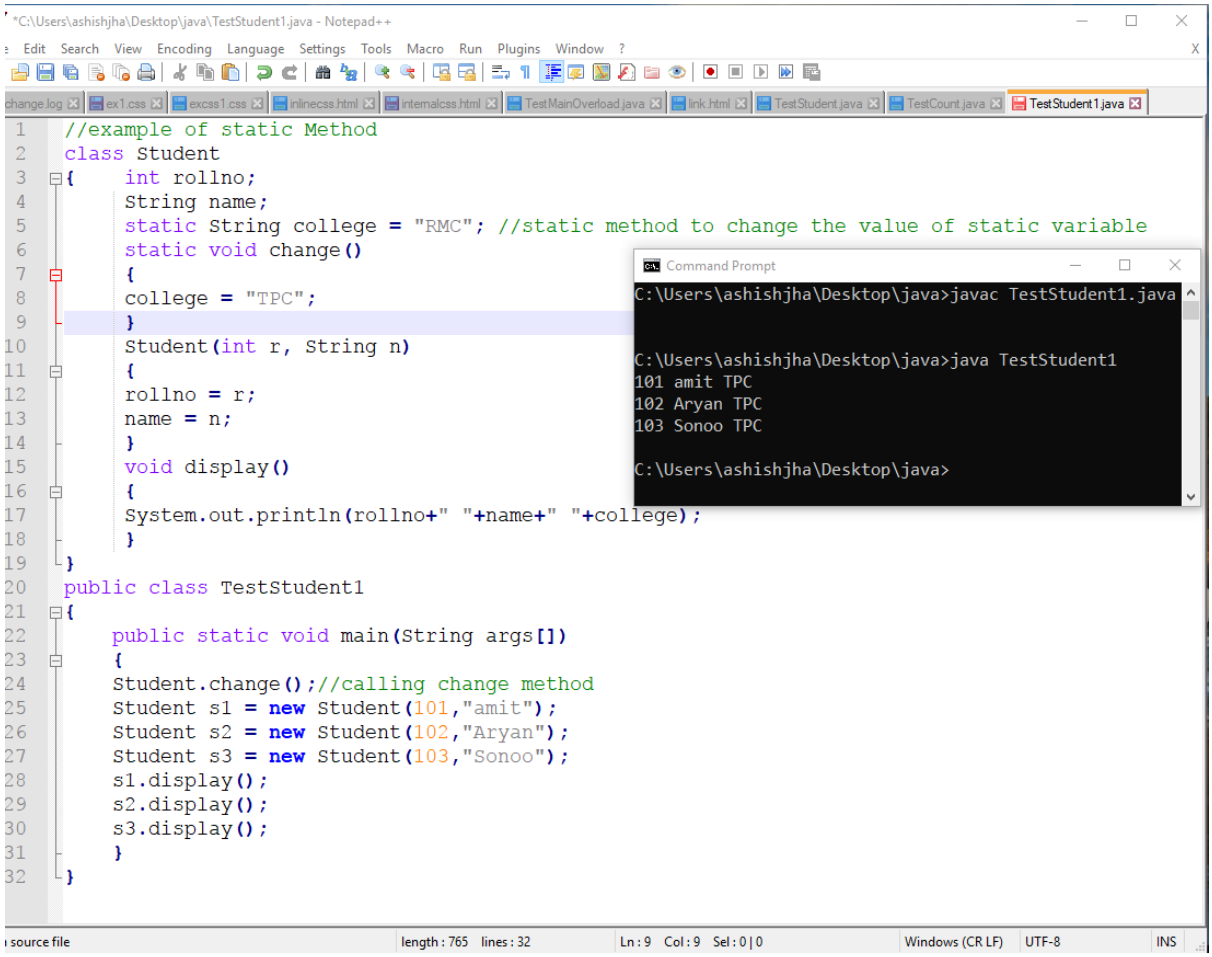
Subject: java (5th SEM.)
Topic: Static Method

2. Java static method

- If we apply static keyword with any method, it is known as static method.
- A static method belongs to the class rather than the object of a class.
- A static method can be invoked without the need for creating an instance of a class.
- A static method can access static data member(variable) and can change the value of it.

Example:-



Note:- Restrictions for the static method

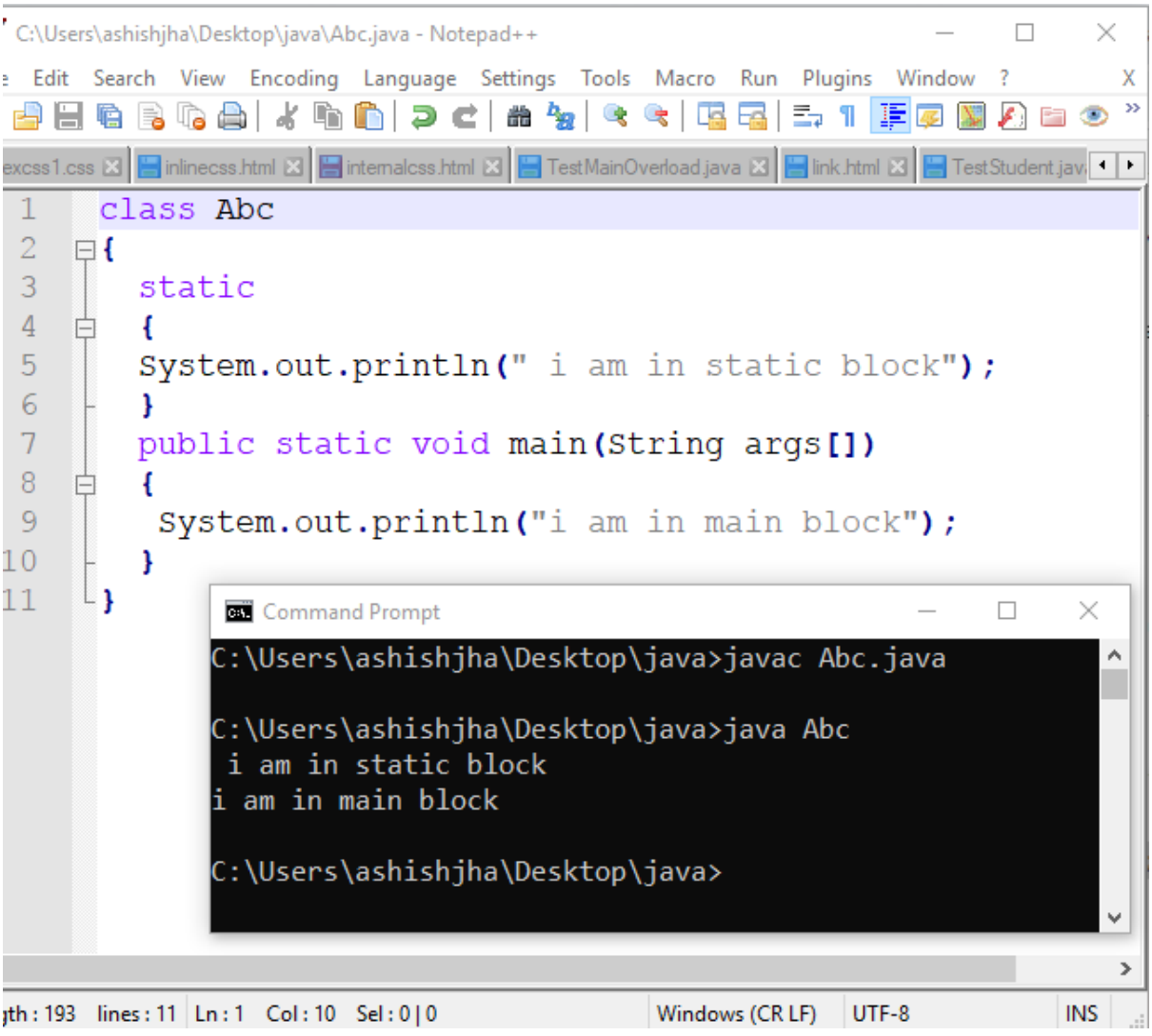
There are two main restrictions for the static method. They are:

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

3. Java static block

- Is used to initialize the static data member.
- It is executed before the main method at the time of class loading.

Example:-



Q. Can we execute a program without main() method?

Ans: No, one of the ways was the static block, but it was possible till JDK 1.6. Since JDK 1.7, it is not possible to execute a Java class without the main method.

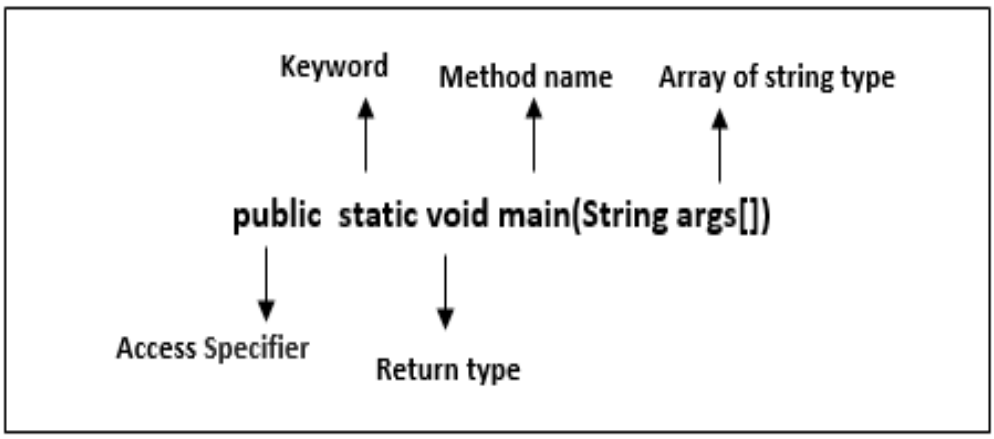
Q. Why is the Java main method static?

Ans: It is because the object is not required to call a static method. If it were a non-static method, **JVM** creates an object first then call main() method that will lead the problem of extra memory allocation.

Q. Explain Java main() method ? (for interview)

Ans: The main() is the starting point for JVM to start execution of a Java program. Without the main() method, JVM will not execute the program.

The syntax of the main() method is:



- **public :** It is an access specifier. We should use a public keyword before the main() method so that JVM can identify the execution point of the program. If we use private, protected, and default before the main() method, it will not be visible to JVM.

- **static:** we can make a method static by using the keyword static. We should call the main() method without creating an object. Static methods are the method which invokes without creating the objects, so we do not need any object to call the main() method.
- **void:** In Java, every method has the return type. Void keyword acknowledges the compiler that main() method does not return any value.

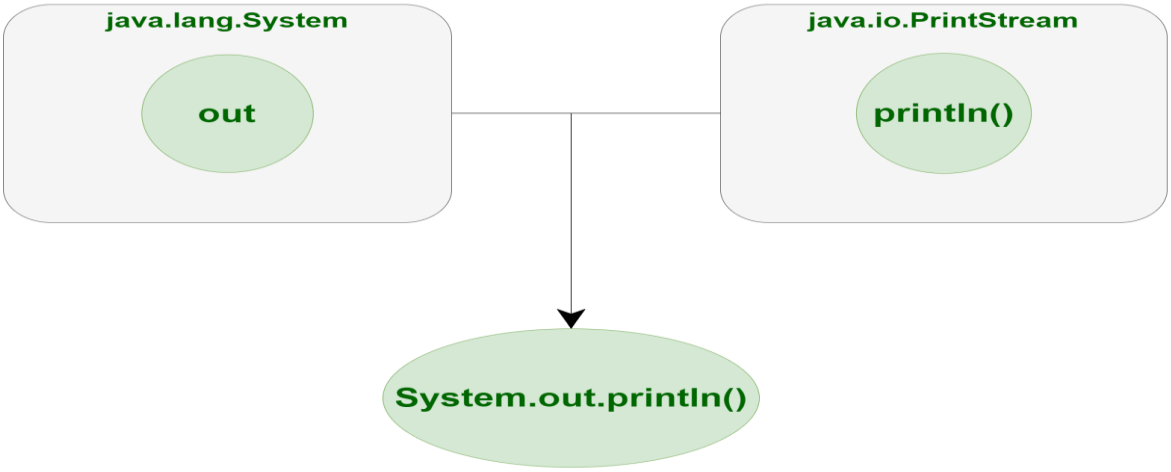
- **main():** It is a default signature which is predefined in the JVM. It is called by JVM to execute a program line by line and end the execution after completion of this method. We can also overload the main() method.

- **String args[]:** The main() method also accepts some data from the user. It accepts a group of strings, which is called a string array. It is used to hold the command line arguments in the form of string values.

System.out.println in Java

Java **System.out.println()** is used to print an argument that is passed to it. The statement can be broken into 3 parts which can be understood separately as:

- **System:** It is a final class defined in the java.lang package.
- **out:** This is an instance of PrintStream type, which is a public and static member field of the System class.
- **println():** As all instances of PrintStream class have a public method println(), hence we can invoke the same on out as well. This is an upgraded version of print(). It prints any argument passed to it and adds a new line to the output. We can assume that System.out represents the Standard Output Stream.



Working of System.out.println()