Q1. Explain static block, static variables and static methods?

Ans:

The static keyword in java is used to indicate that a particular member(filed,block or methods) belongs to the class rather than object / instance of a class.

Note: static member recommended to access via name of the class

Syntax:

Static Variable:

ClassName.memberdataName;

Static Methods:

ClassName.methodName();

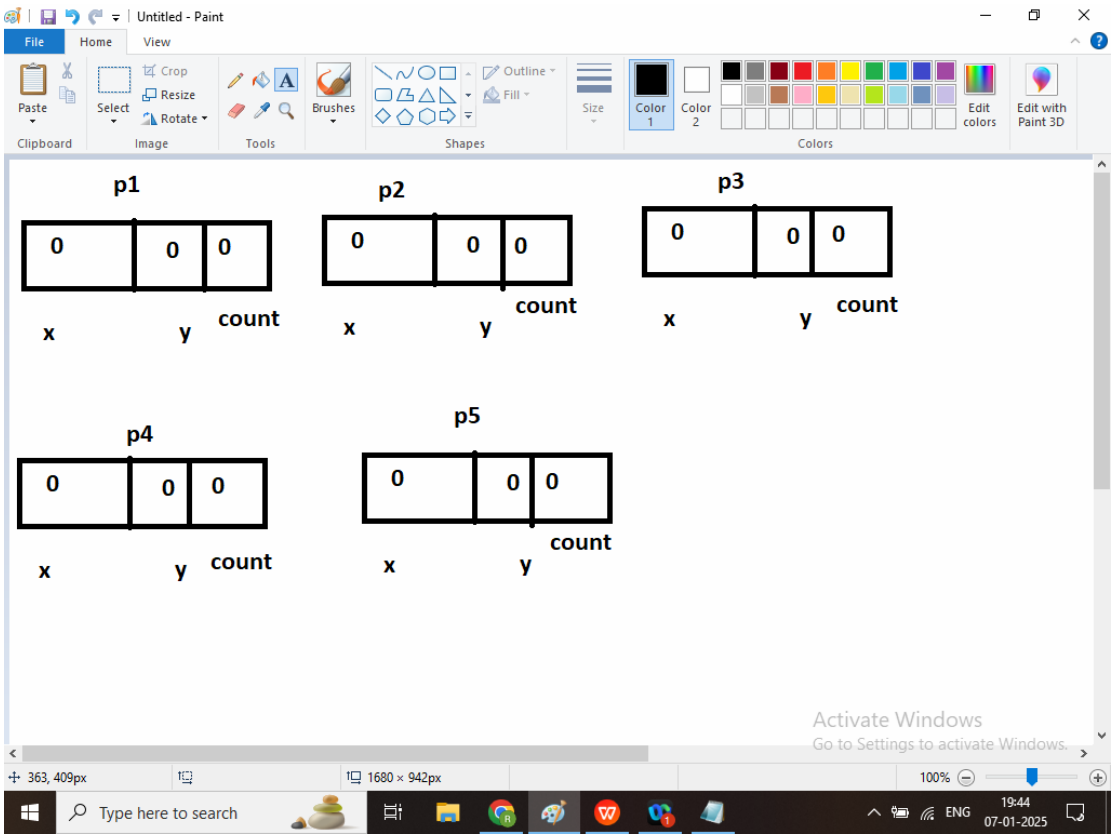
Static block is automatically called when object class is loaded.

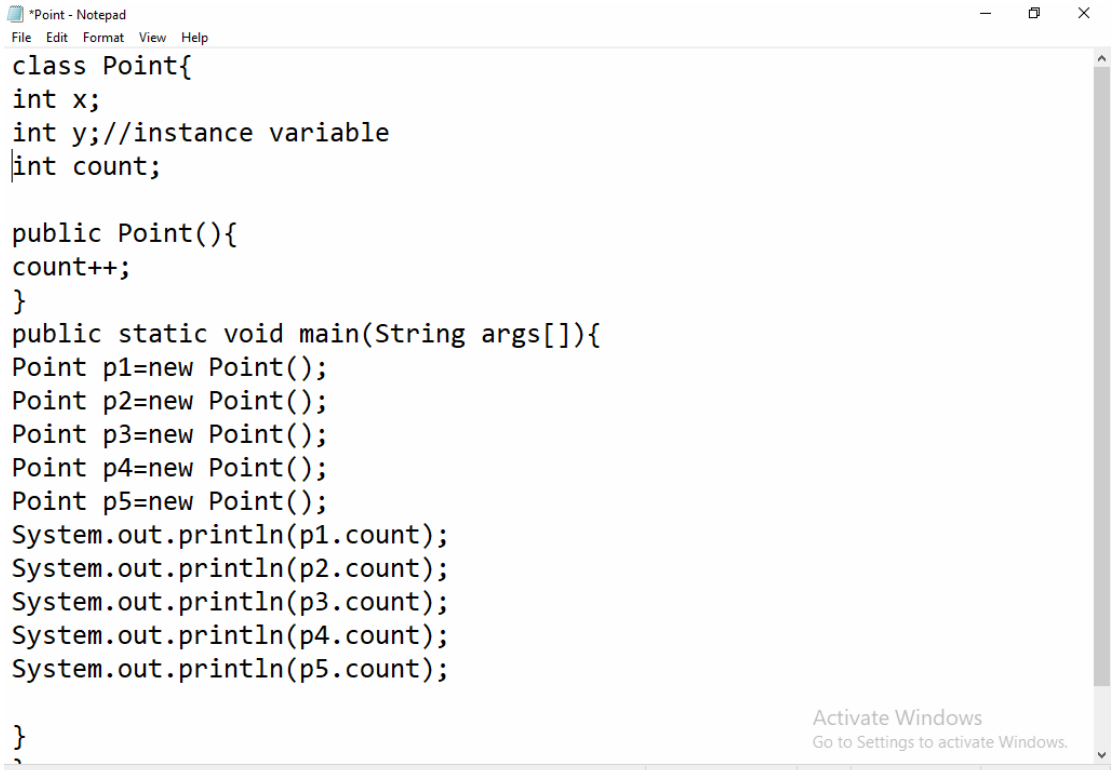
Static block always executed before main method

If a class contain multiple static block then it will be executed according to the order in which they are defined top to bottom

Static Variables: A static variable is shared among all instance of a class

Memory is allocated once for static variables at the time of class loading




*Point - Notepad
File Edit Format View Help
class Point{
int x;
int y;//instance variable
int count;
public Point(){
count++;
}
public static void main(String args[]){
Point p1=new Point();
Point p2=new Point();
Point p3=new Point();
Point p4=new Point();
Point p5=new Point();
System.out.println(p1.count);
System.out.println(p2.count);
System.out.println(p3.count);
System.out.println(p4.count);
System.out.println(p5.count);
}
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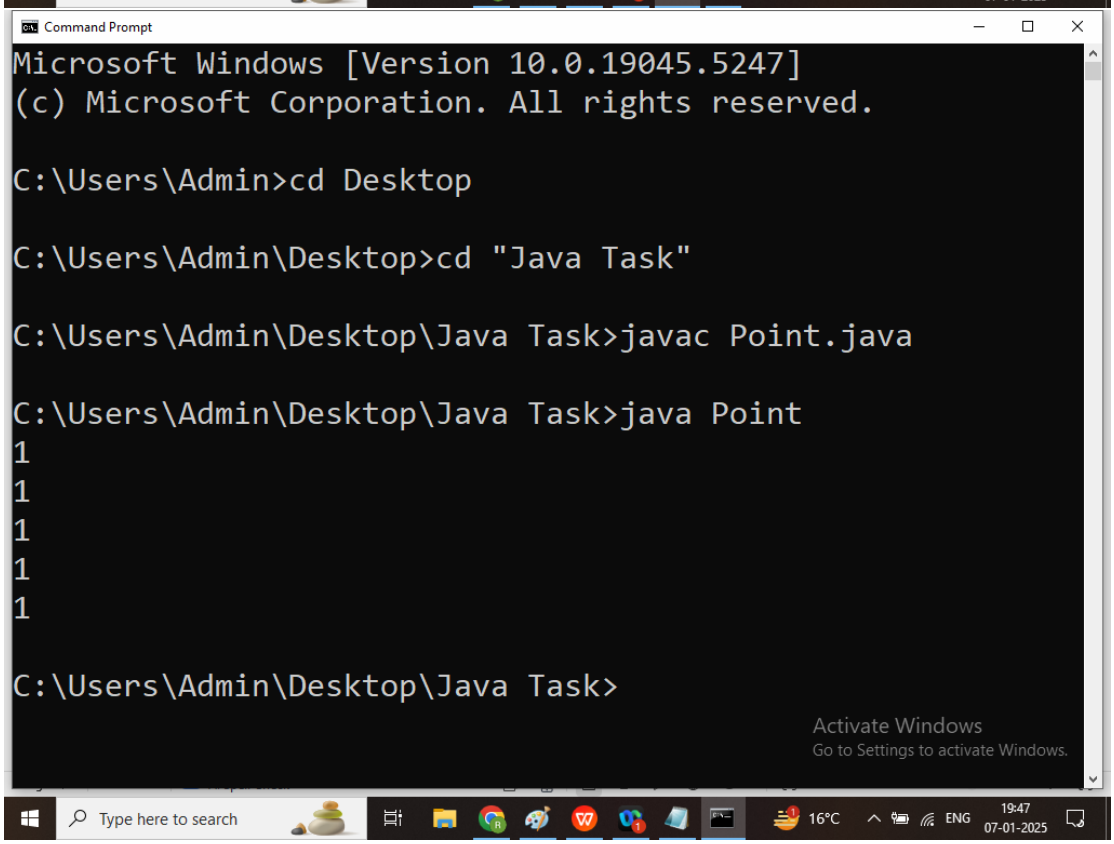
Command Prompt
Microsoft Windows [Version 10.0.19045.5247]
(c) Microsoft Corporation. All rights reserved.
C:\Users\Admin>cd Desktop
C:\Users\Admin\Desktop>cd "Java Task"
C:\Users\Admin\Desktop\Java Task>javac Point.java
C:\Users\Admin\Desktop\Java Task>java Point
1
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C:\Users\Admin\Desktop\Java Task>
Activate Windows
Go to Settings to activate Windows.
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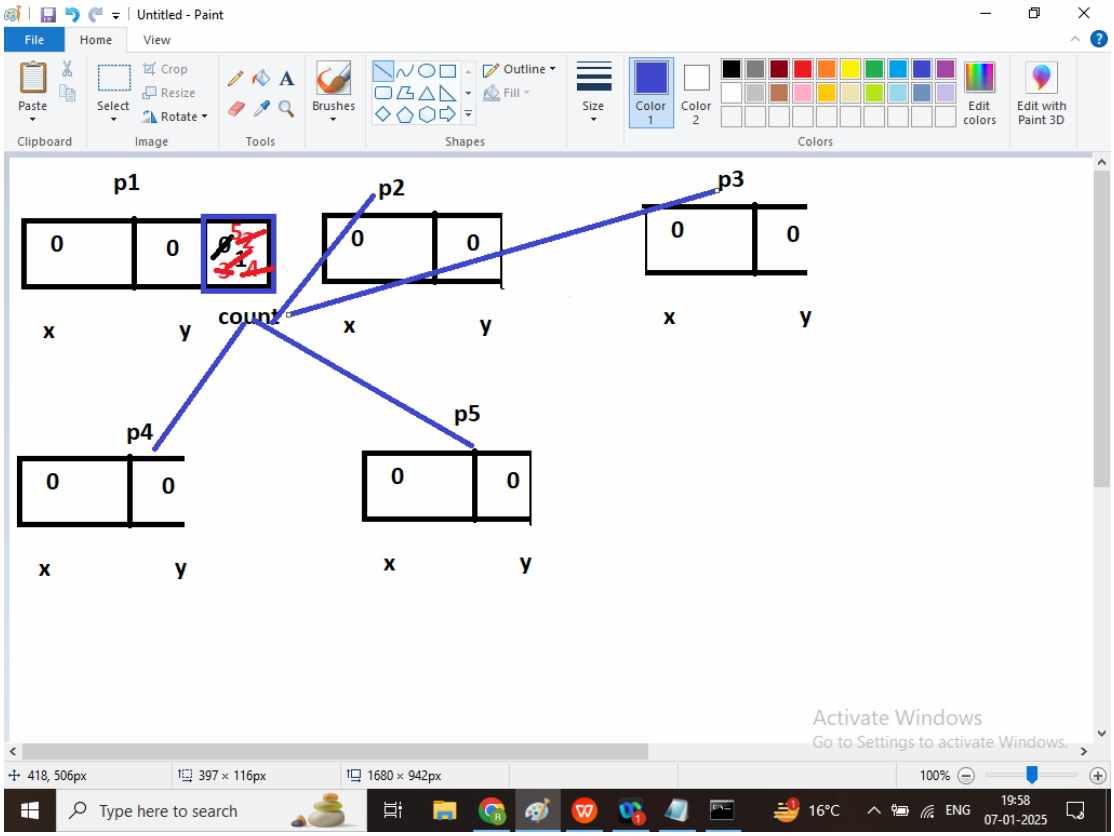
Untitled - Paint
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Edit colors
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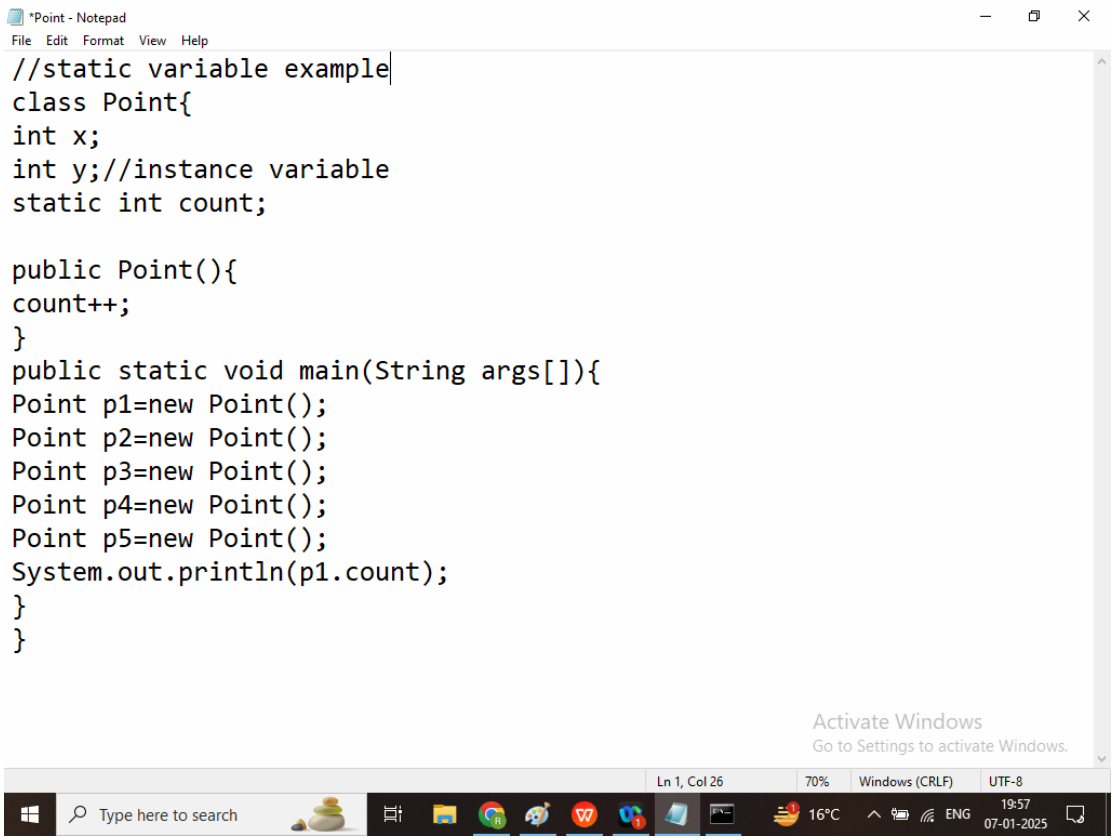
*Point - Notepad
File Edit Format View Help
//static variable example
class Point{
int x;
int y;//instance variable
static int count;
public Point(){
count++;
}
public static void main(String args[]){
Point p1=new Point();
Point p2=new Point();
Point p3=new Point();
Point p4=new Point();
Point p5=new Point();
System.out.println(p1.count);
}
}
Activate Windows
Go to Settings to activate Windows.
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Windows (CRLF)
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07-01-2025

Static method: static methods can be called without creating an object of the class

These methods can only access static variables and other static methods directly (without using this and super)

Static method is recommended to call using class Name
ClassName.methodName();
//static methods example
class Point{
int x;
int y;//instance variable
static int count;

public Point(){
count++;
}
public static int getCtr(){

```
return count;
}
public static void main(String args[]){
Point p1=new Point();
Point p2=new Point();
Point p3=new Point();
Point p4=new Point();
Point p5=new Point();
System.out.println(p1.count);
System.out.println("Number of Object
is created : "+count);
System.out.println("Number of Object
is created : "+Point.count);
System.out.println("=======static
methods call=======>");
System.out.println("No. of Object
Created : "+p1.getCtr());
System.out.println("No. of Object
Created : "+Point.getCtr());
System.out.println("No. of Object
Created : "+getCtr());
```

```
}
}
```

Static block: static block is used to initialize static variables

Executed only once when the class is loaded in the memory

```
//static methods example
class Point{
int x;
int y;//instance variable
static int count;
static{
count=100;
System.out.println("This is Static Block 1 here");
}
public Point(){
```

```
count++;
}
public static int getCtr(){
return count;
}
static{
count=300;
System.out.println("This is Static Block
3 here");
}
public static void main(String args[]){
System.out.println("This is Main
Method Here");
Point p1=new Point();
Point p2=new Point();
Point p3=new Point();
Point p4=new Point();
Point p5=new Point();
System.out.println(p1.count);
System.out.println("Number of Object
is created : "+count);
```

```
System.out.println("Number of Object
is created : "+Point.count);
System.out.println("=======static
methods call=======>");
System.out.println("No. of Object
Created : "+p1.getCtr());
System.out.println("No. of Object
Created : "+Point.getCtr());
System.out.println("No. of Object
Created : "+getCtr());


}
static{
count=200;
System.out.println("This is Static Block
2 here");
}

}
```
