

### Question1:

What are the types of variable in JAVA? Explain with examples

There are 3 types of variable in JAVA.

**Local Variable:** Local variables are declared or defined in a method or block. These variables are created when the block or the method is called. The scope remains in the block or within the methods.

For example:

```
class VariableCheck {
    public static void main(String[] args)
    {
        String name ="Alamin";
        system.out.print("My name is " + name;
    }
}
```

Here in this example string is a local variable for this class VariableCheck. Outside of this class it will not work.

**Instance Variable:** Instance variables are declared in a class outside of any method or block and they are non static variables. Normally the access specifiers are used while declaring a instance variable. Public , private, default are used as the access specifiers.

For example:

```
class VariableCheck {

    public String name;
    Public int id;

    Public VariableCheck(){
        This.name = "Alamin";
    }
}
```

Here name and id are the instance variable.

**Static Variable:** Static variables are similar to instance variables but the main difference is in static variable static keyword are used. Static variable can only have one copy while creating a object.

```
class VariableCheck {

    Public String name;
    Public static int id;

    Public VariableCheck(){
        This.name = "Alamin";
    }
}
```

Here id is a static variable.

### Question 2:

What are the benefits of static methods in JAVA?

Static methods are created without creating an object or a class. They make the program more memory efficient. They have other benefits like global access, performance, and code organization.

### Question 3:

Write a code in Java to compare three integer values and show which one is the largest number.

Code:

```
public class Problem_3 {  
    public static void main(String[] args) {  
        int num1=5, num2=15, num3=40;  
  
        System.out.println("Largest number is: " + Math.max(num1, Math.max(num2,  
num3)));  
    }  
}
```

#### Question 4:

Write a code to JAVA to implement split(), trim(), replaceall() method together.

Code:

```
public class Problem_4 {  
    public static void main(String[] args) {  
  
        // split  
        String str1="This is a test to split a string";  
        String[] words=str1.split(" ");  
        for(String word:words){  
            System.out.println(word);  
        }  
  
        // trim  
        String str2 = " This is a string to test trim function. ";  
        String strTrim = str2.trim();  
        System.out.println(strTrim);  
  
        // replaceall  
        String str3 = "This is a string to test replace all function. ";  
        String strReplace = str3.replaceAll(" ", "");  
        System.out.println(strReplace);  
  
    }  
}
```