Variable Types

Java defines several common variables: **static variables**, **instance variables**, **array elements**, **method parameters**, and **local variables**. The following examples describe each of these variables:

static variables

Example

```
class Person
{
   static String name = "Donald John Trump"; // name is a static variable

   public static void main(String[] args)
   {
      System.out.println("The president of United States now is " + Person.name);
   }
}
```

instance variables

Example

```
class Clothes
{
   String color = "yellow"; // color is an instance variable

   public static void main(String[] args)
   {
      Clothes myClothes = new Clothes();
      System.out.println(myClothes.color);
   }
}
```

array elements

Example

```
class Person
{
   public static void main(String[] args)
   {
```

```java
    String[] names = {"John", "Mary", "Anderson", "Lucy"};

    for (int i = 0; i < names.length; i++)
    {
      System.out.println(names[i]); // names[i] is an array element
    }
  }
}
```

method parameters

Example

```java
class Person
{
  static void myMethod(String firstName, int age) // firstName and age are method parameters
  {
    System.out.println(firstName + " is " + age + " years old.");
  }

  public static void main(String[] args)
  {
    myMethod("Emily", 19);
  }
}
```

local variables

Example

```java
class Program
{
  public static void main(String[] args)
  {
    int a = 10; // a is a local variable
    int b = 3; // b is a local variable
    int c = 5; // c is a local variable

    int sum = a + b + c; // sum is a local variable
    System.out.println("The sum is: " + sum);
  }
```

}

Example (static variables, instance variables, array elements, method parameters, and local variables)

```java
class Program
{
   static String country1 = "United States"; // country1 a static variable
   static String country2 = "United Kingdom"; // country2 a static variable
   String color1 = "blue"; // color1 an instance variable
   String color2 = "pink"; // color2 an instance variable

   static void myMethod(String firstName, int age) // firstName and age are (value) parameters
   {
      System.out.println(firstName + " is " + age + " years old.");
   }

   public static void main(String[] args) // String[] is an array which data type is String
   {
      // relation is a local variable
      String relation = "They are classmates and have a good relationship with each other.";
      Program program = new Program();

      myMethod("John", 21);System.out.println("He is a student of " + Program.country1 + ".");
      System.out.println("He like " + program.color1 + " Clothes." );
      System.out.println();
      myMethod("Mary", 20); System.out.println("She is a student of " + Program.country2 + ".");
      System.out.println("She like " + program.color2 + " Clothes." );
      System.out.println();
      System.out.println(relation);
   }
}
```

Explanation

country1 and country2 are static variables, color1 and color2 are instance variables,

args[0] is an array element, firstName and age are value parameters,

and relation is a local variable.