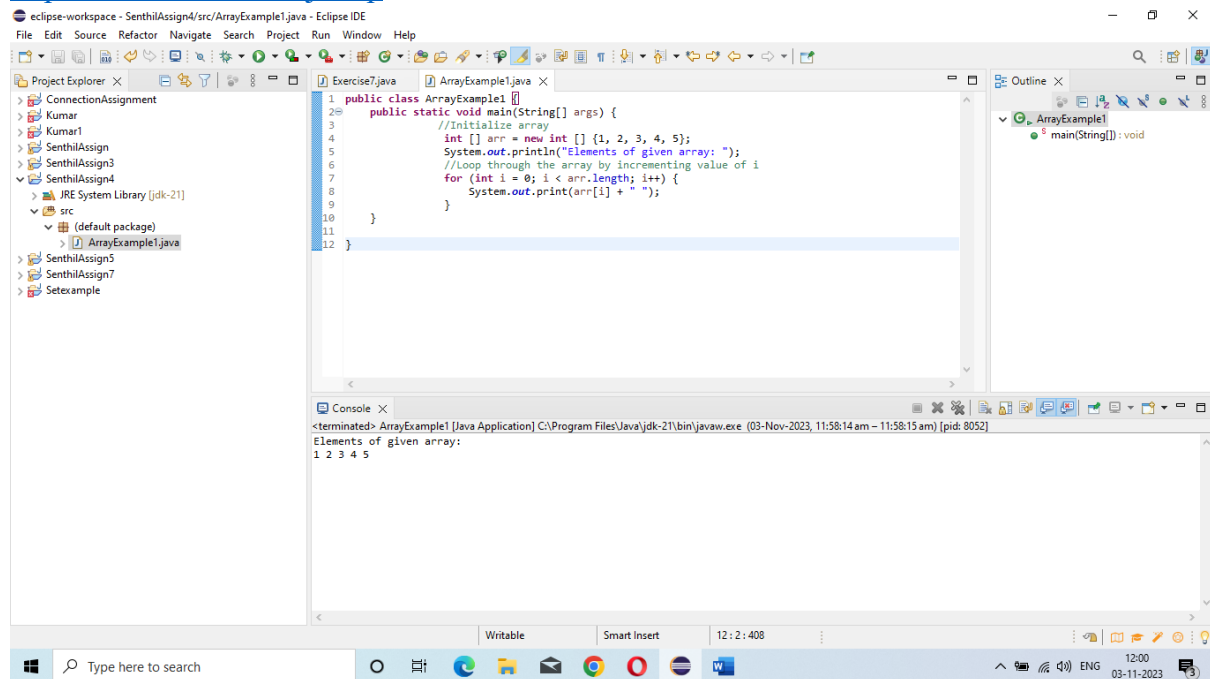


Assignment 4 - Arrays and String functions

1. Create an array of integers and use a for loop to print out each element of the array.

Codeshare link:

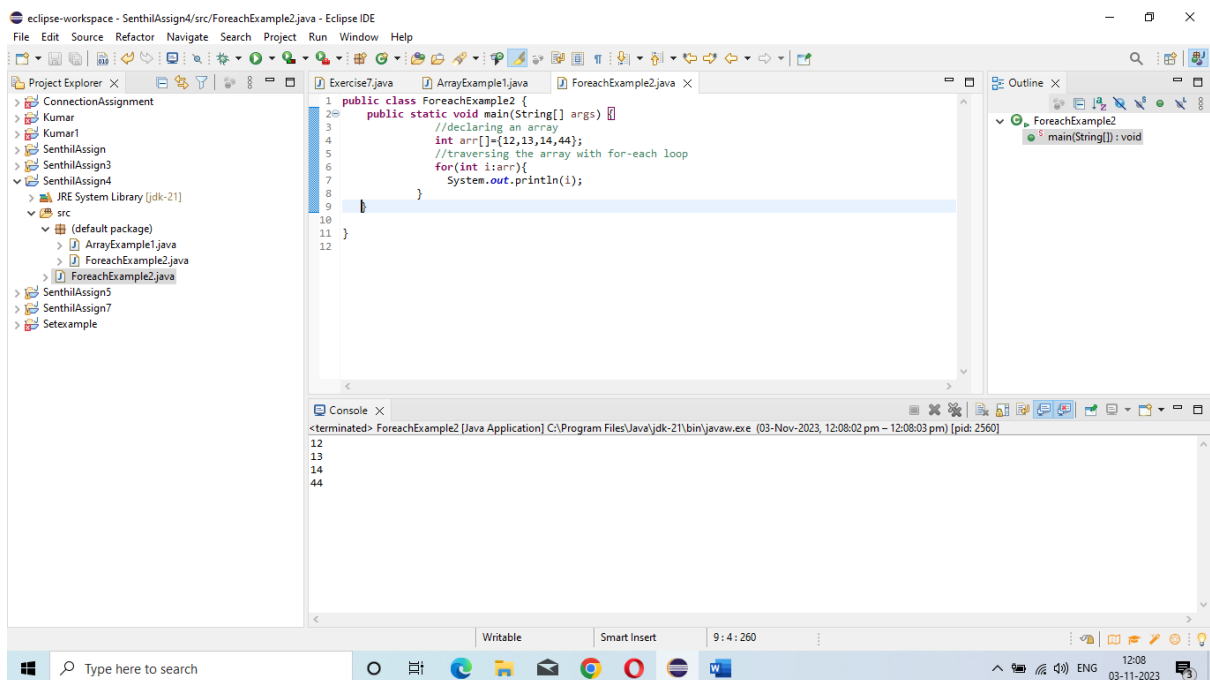
<https://codeshare.io/AdjBMp>



2. Create an array of strings and use a for-each loop to print out each element of the array.

Codeshare link:

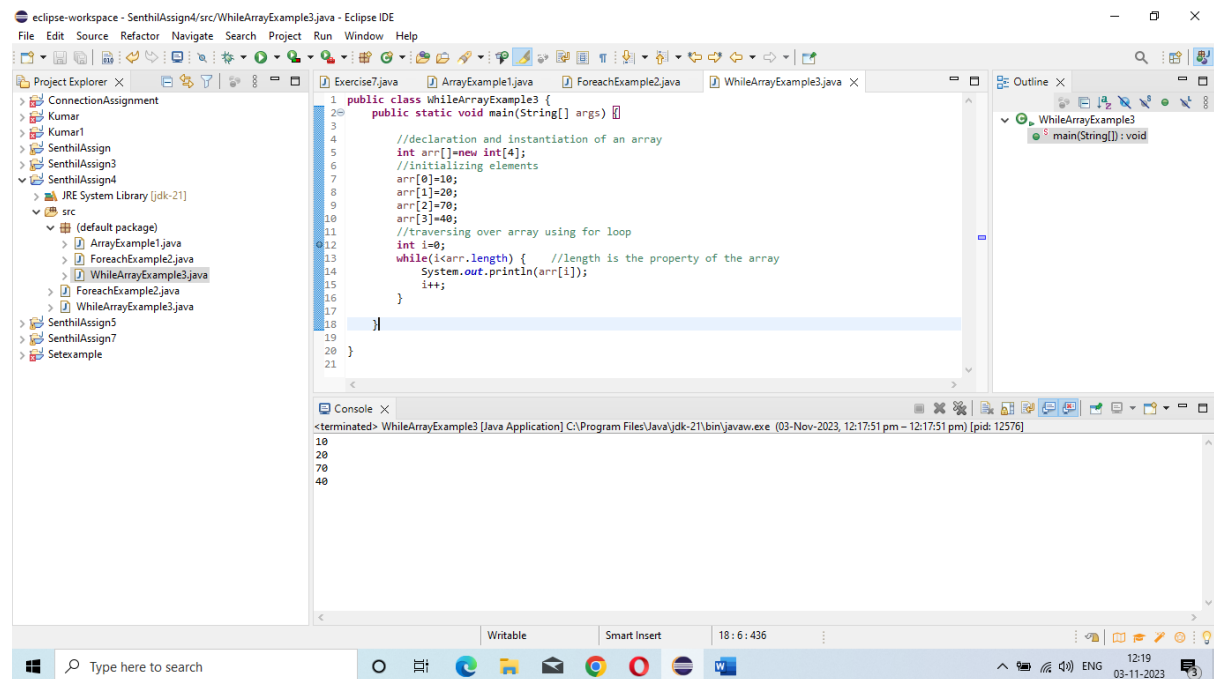
<https://codeshare.io/zyRkLr>



3. Create an array of doubles and use a while loop to print out each element of the array.

Codeshare link:

<https://codeshare.io/Qnxb3w>



```
1 public class WhileArrayExample3 {
2     public static void main(String[] args) {
3
4         //declaration and instantiation of an array
5         int arr[]=new int[4];
6         //initializing elements
7         arr[0]=10;
8         arr[1]=20;
9         arr[2]=70;
10        arr[3]=40;
11        //traversing over array using for loop
12        int i=0;
13        while(i<arr.length) { //length is the property of the array
14            System.out.println(arr[i]);
15            i++;
16        }
17    }
18 }
19
20
21
```

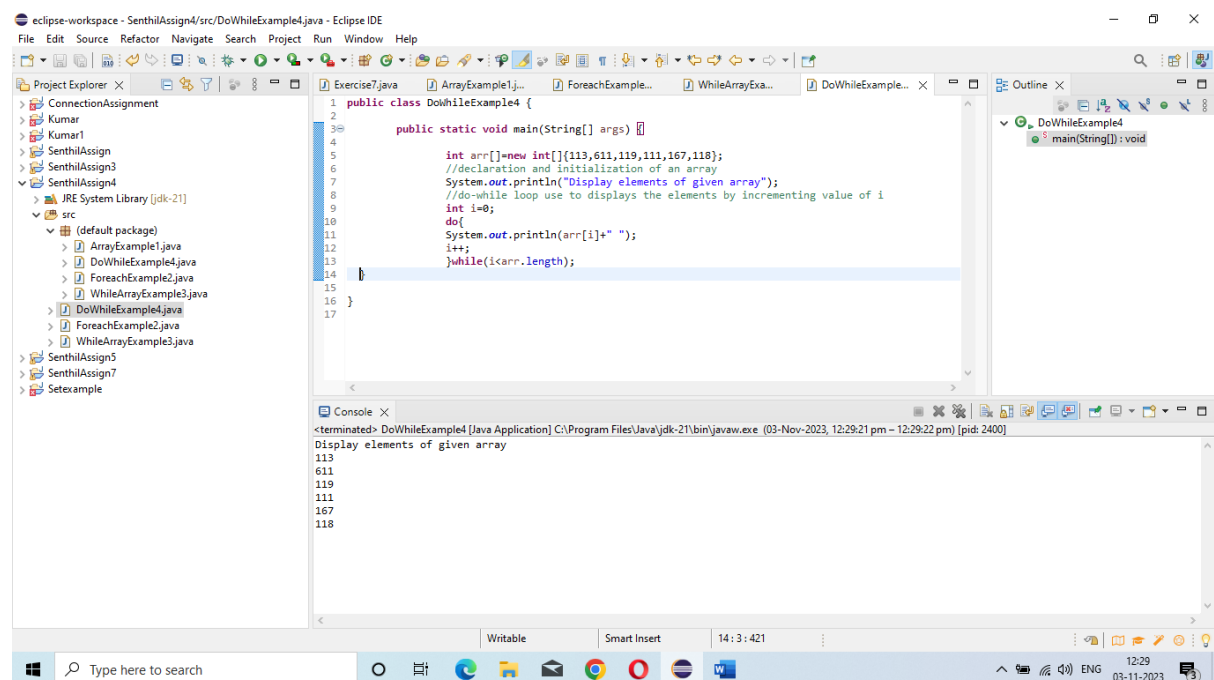
Console Output:

```
<terminated> WhileArrayExample3 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (03-Nov-2023, 12:17:51 pm - 12:17:51 pm) [pid: 12576]
10
20
70
40
```

4. Create an array of characters and use a do-while loop to print out each element of the array.

Codeshare link:

<https://codeshare.io/zyRkKE>



```
1 public class DoWhileExample4 {
2
3     public static void main(String[] args) {
4
5         int arr[]=new int[] {113,611,119,111,167,118};
6         //declaration and initialization of an array
7         System.out.println("Display elements of given array");
8         //do-while loop use to displays the elements by incrementing value of i
9         int i=0;
10        do{
11            System.out.println(arr[i]+" ");
12            i++;
13        }while(i<arr.length);
14    }
15 }
16
17
```

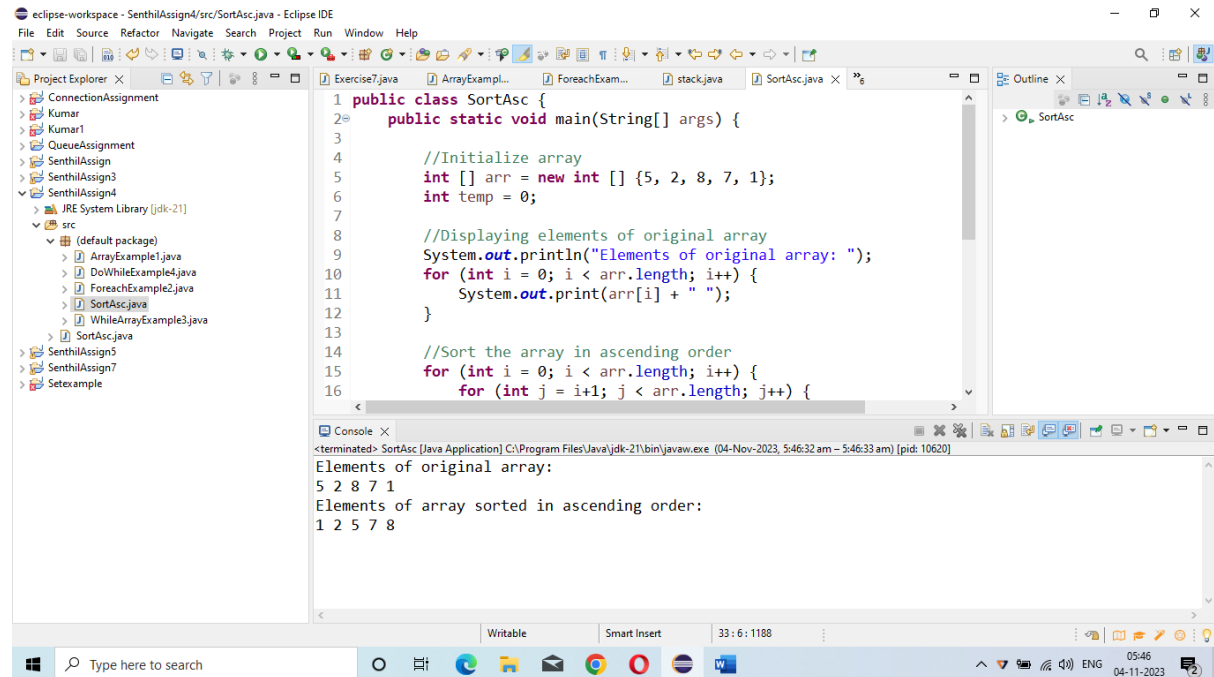
Console Output:

```
<terminated> DoWhileExample4 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (03-Nov-2023, 12:29:21 pm - 12:29:22 pm) [pid: 2400]
Display elements of given array
113
611
119
111
167
118
```

5. Create an array of integers and use the Arrays class method sort() to sort the array in ascending order.

Codeshare Link:

<https://codeshare.io/JbZY0R>



The screenshot shows the Eclipse IDE with the file SortAsc.java open. The code defines a public class SortAsc with a main method. It initializes an integer array with values {5, 2, 8, 7, 1} and sorts it in ascending order using the Arrays.sort() method. The console output shows the original array elements and the sorted array elements.

```
1 public class SortAsc {
2     public static void main(String[] args) {
3
4         //Initialize array
5         int [] arr = new int [] {5, 2, 8, 7, 1};
6         int temp = 0;
7
8         //Displaying elements of original array
9         System.out.println("Elements of original array: ");
10        for (int i = 0; i < arr.length; i++) {
11            System.out.print(arr[i] + " ");
12        }
13
14        //Sort the array in ascending order
15        for (int i = 0; i < arr.length; i++) {
16            for (int j = i+1; j < arr.length; j++) {
```

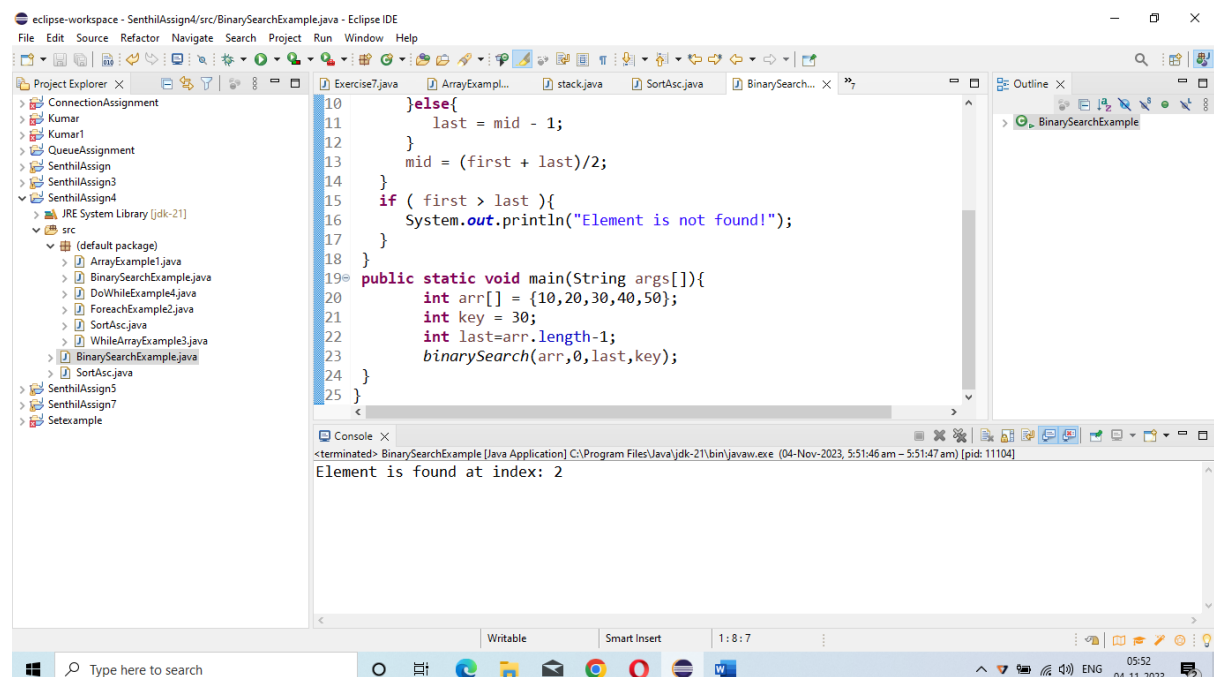
Console Output:

```
<terminated> SortAsc [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (04-Nov-2023, 5:46:32 am - 5:46:33 am) [pid: 10620]
Elements of original array:
5 2 8 7 1
Elements of array sorted in ascending order:
1 2 5 7 8
```

6. Create an array of strings and use the Arrays class method binarySearch() to find the index of a specific string in the array.

Codeshare link:

<https://codeshare.io/OdMYgg>



The screenshot shows the Eclipse IDE with the file BinarySearchExample.java open. The code defines a public class BinarySearchExample with a main method. It initializes an integer array with values {10, 20, 30, 40, 50} and searches for the value 30 using the Arrays.binarySearch() method. The console output shows the index of the found element.

```
10 }else{
11     last = mid - 1;
12 }
13 mid = (first + last)/2;
14 }
15 if ( first > last ){
16     System.out.println("Element is not found!");
17 }
18 }
19 public static void main(String args[]){
20     int arr[] = {10,20,30,40,50};
21     int key = 30;
22     int last=arr.length-1;
23     binarySearch(arr,0,last,key);
24 }
25 }
```

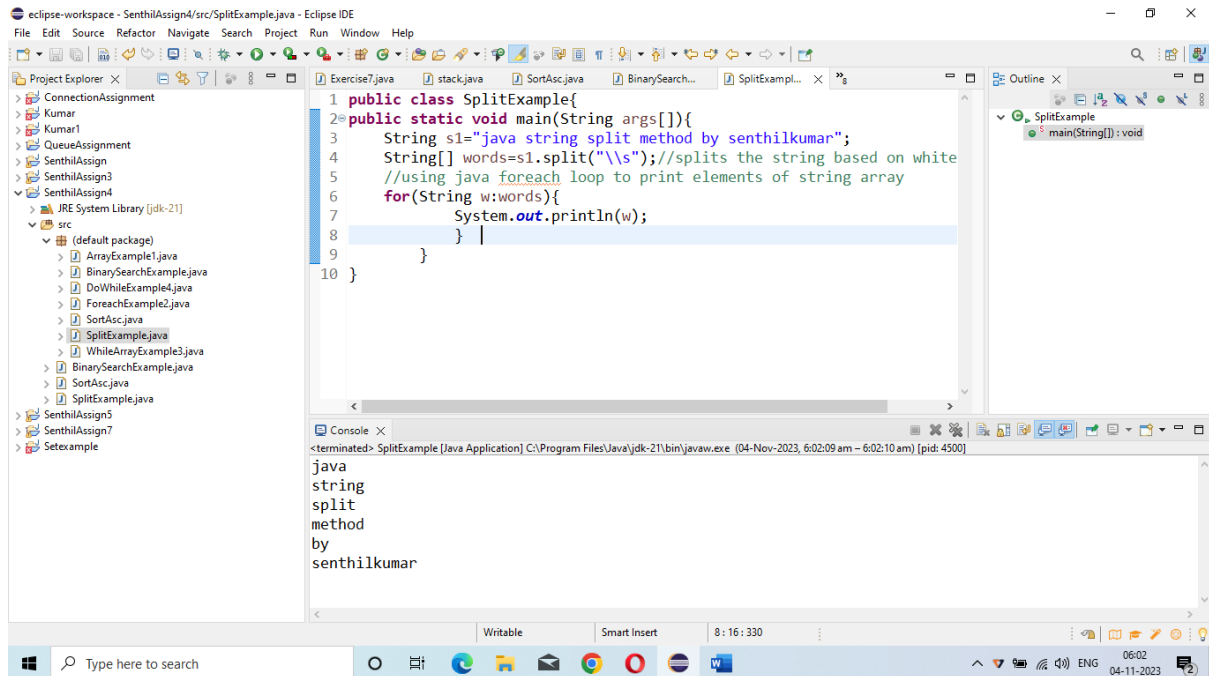
Console Output:

```
<terminated> BinarySearchExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (04-Nov-2023, 5:51:46 am - 5:51:47 am) [pid: 11104]
Element is found at index: 2
```

7. Create a string and use the String class method `split()` to split the string into an array of substrings.

Codeshare link:

<https://codeshare.io/K8VYyo>



```
1 public class SplitExample{
2 public static void main(String args[]){
3     String s1="java string split method by senthilkumar";
4     String[] words=s1.split("\\s");//splits the string based on white
5     //using java foreach loop to print elements of string array
6     for(String w:words){
7         System.out.println(w);
8     }
9 }
10 }
```

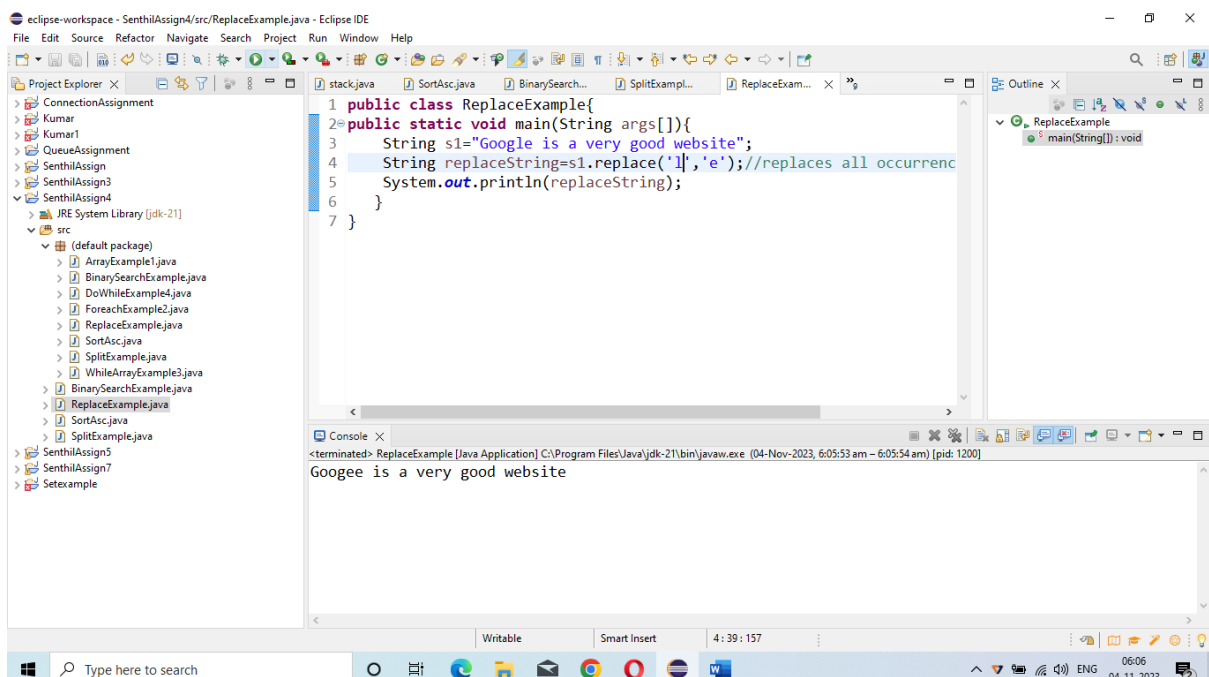
Console Output:

```
<terminated> SplitExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (04-Nov-2023, 6:02:09 am - 6:02:10 am) [pid: 4500]
java
string
split
method
by
senthilkumar
```

8. Create a string and use the String class method `replace()` to replace a specific substring in the string with a new substring.

Codeshare link:

<https://codeshare.io/8pb6Av>



```
1 public class ReplaceExample{
2 public static void main(String args[]){
3     String s1="Google is a very good website";
4     String replaceString=s1.replace('l','e');//replaces all occurrence
5     System.out.println(replaceString);
6 }
7 }
```

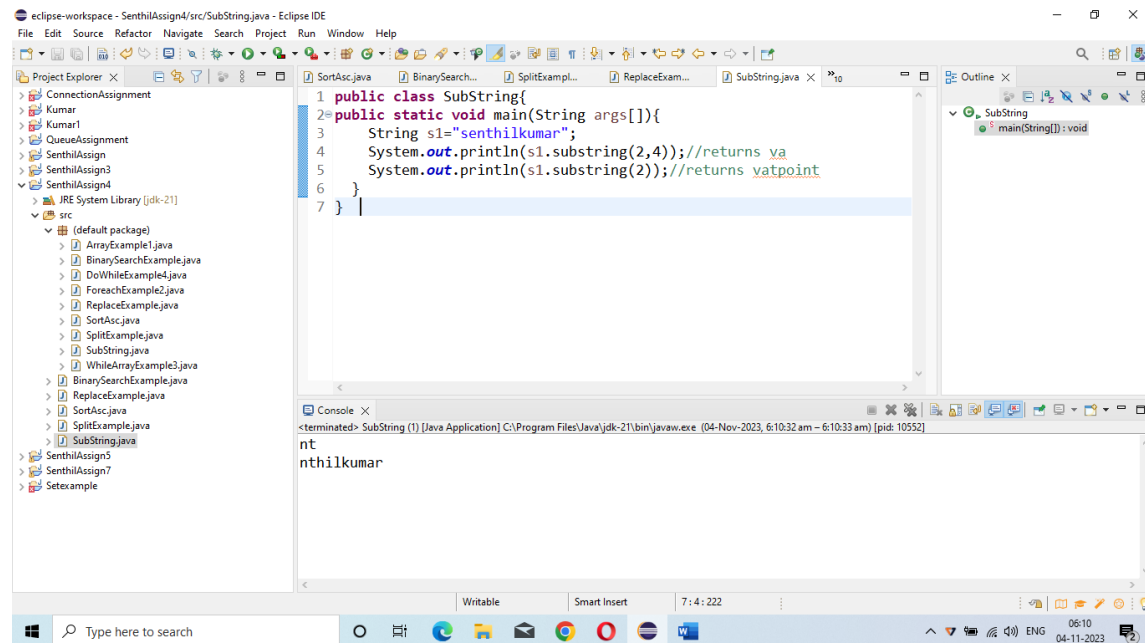
Console Output:

```
<terminated> ReplaceExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (04-Nov-2023, 6:05:54 am - 6:05:54 am) [pid: 1200]
Googee is a very good website
```

9. Create a string and use the String class method substring() to extract a portion of the string.

Codeshare link:

<https://codeshare.io/3AeJkv>



The screenshot shows the Eclipse IDE with the file 'SubString.java' open. The code defines a class 'SubString' with a main method that creates a string 's1' with the value 'Senthilkumar'. It then prints the substring from index 2 to 4, which is 'nthil', and the substring starting from index 2, which is 'nthilkumar'.

```
1 public class SubString{
2     public static void main(String args[]){
3         String s1="Senthilkumar";
4         System.out.println(s1.substring(2,4)); //returns ya
5         System.out.println(s1.substring(2)); //returns vatpoint
6     }
7 }
```

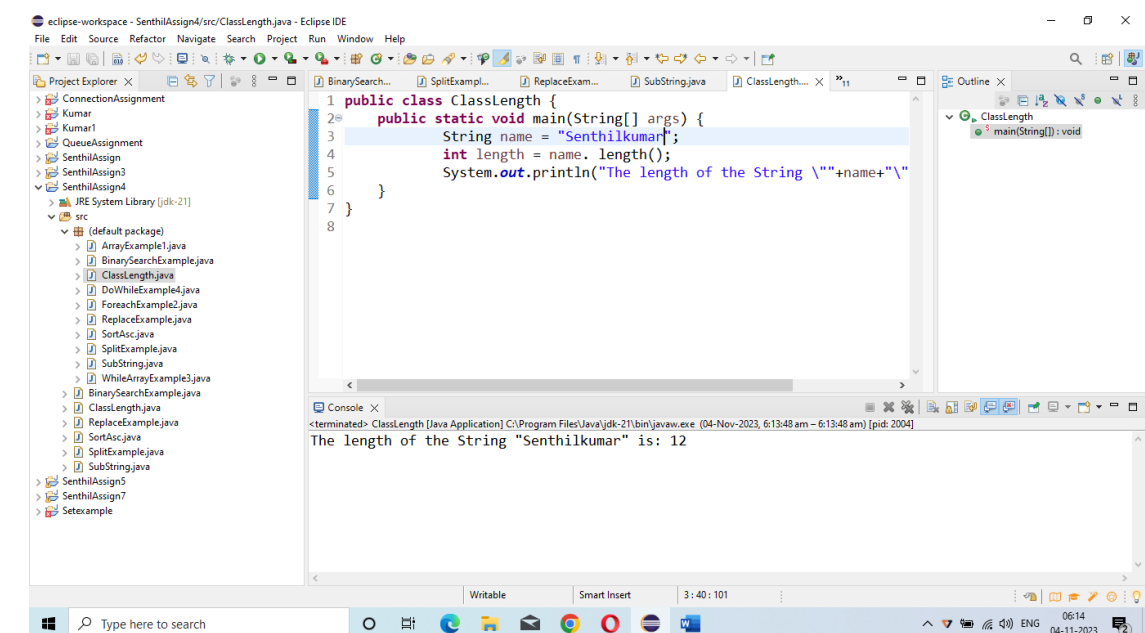
The console output shows the results of the program execution:

```
<terminated> SubString (1) [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (04-Nov-2023, 6:10:32 am - 6:10:33 am) [pid: 10552]
nt
nthilkumar
```

10. Create a string and use the String class method length() to find the length of the string.

Codeshare link:

<https://codeshare.io/N3EY1d>



The screenshot shows the Eclipse IDE with the file 'ClassLength.java' open. The code defines a class 'ClassLength' with a main method that creates a string 'name' with the value 'Senthilkumar'. It then prints the length of the string, which is 12.

```
1 public class ClassLength {
2     public static void main(String[] args) {
3         String name = "Senthilkumar";
4         int length = name.length();
5         System.out.println("The length of the String \""+name+"\"");
6     }
7 }
8 }
```

The console output shows the result of the program execution:

```
<terminated> ClassLength [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (04-Nov-2023, 6:13:48 am - 6:13:48 am) [pid: 2004]
The length of the String "Senthilkumar" is: 12
```