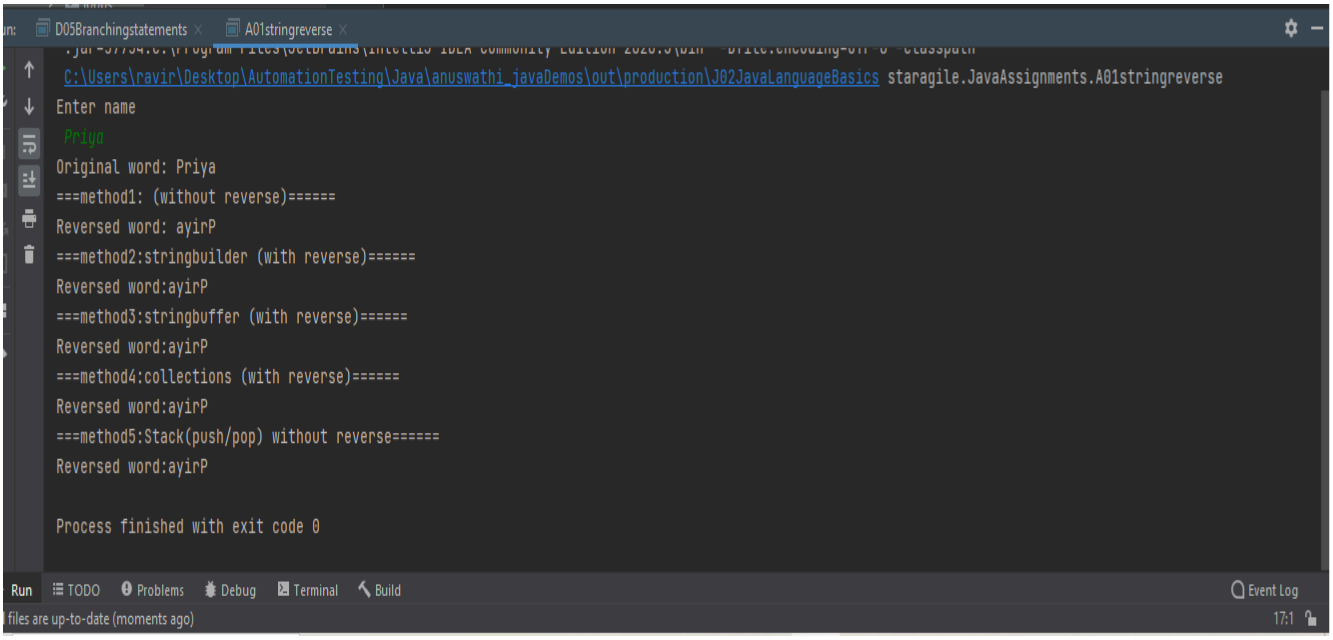
1. Write a Java program to reverse a string with and without reverse() function

```
// Write a Java program to reverse a string with and without
reverse() function

public class A01stringreverse {
      public static void main(String[] args) {
       String  enteredstring="";
       String  finalstring = "";
        char ch;
       Scanner scn = new Scanner(System.in);
       System.out.println("Enter name");
         enteredstring= scn.next();//for string
       System.out.print("Original word: ");
       System.out.println(enteredstring);
       System.out.println("===method1: (without
reverse)======");
       for (int i=0; i<enteredstring.length(); i++)
       {
           ch= enteredstring.charAt(i); //extracts each
character
           finalstring= ch+finalstring; //adds each character
in front of the existing string
       }
       System.out.println("Reversed word: "+ finalstring);
       System.out.println("===method2:stringbuilder (with
reverse)======");
       StringBuilder sb = new StringBuilder();
       // append a string into StringBuilder input1
       sb.append(enteredstring);
       System.out.println("Reversed word:"+sb.reverse());
       System.out.println("===method3:stringbuffer (with
reverse)======");
       StringBuffer  sb2=new StringBuffer(enteredstring);
       System.out.println("Reversed word:"+sb2.reverse());
       System.out.println("===method4:collections (with
reverse)======");
       List<Character> outputarray = new ArrayList<>();
       char[] inputarray = enteredstring.toCharArray();
```

```
        for(char ch2 : inputarray)
        {
            outputarray.add(ch2);
        }
         Collections.reverse(outputarray);
        ListIterator li = outputarray.listIterator();
        System.out.print("Reversed word:");
        while (li.hasNext())
        System.out.print(li.next());
        System.out.print("\n");
        System.out.println("===method5:Stack(push/pop) without
reverse======");
        //initializing a stack of type char
        Stack<Character> stack=new Stack<>();
        String outputarray2="";
        char[] inputarray2 = enteredstring.toCharArray();
        for(char ch3 : inputarray2)
        {
            //pushing all the characters
            stack.push(ch3);
        }
        while(!stack.isEmpty())
        {
            //popping all the chars and appending to temp
            outputarray2+=stack.pop();
        }
        System.out.println("Reversed word:"+outputarray2);
    }
}
```

Output:-



```
.jar=57754:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\bin" -Dfile.encoding=UTF-8 -classpath
 C:\Users\ravir\Desktop\AutomationTesting\Java\anuswathi_javaDemos\out\production\J02JavaLanguageBasics staragile.JavaAssignments.A01stringreverse
Enter name
 Priya
Original word: Priya
===method1: (without reverse)======
Reversed word: ayirP
===method2:stringbuilder (with reverse)======
Reversed word:ayirP
===method3:stringbuffer (with reverse)======
Reversed word:ayirP
===method4:collections (with reverse)======
Reversed word:ayirP
===method5:Stack(push/pop) without reverse======
Reversed word:ayirP

Process finished with exit code 0
```

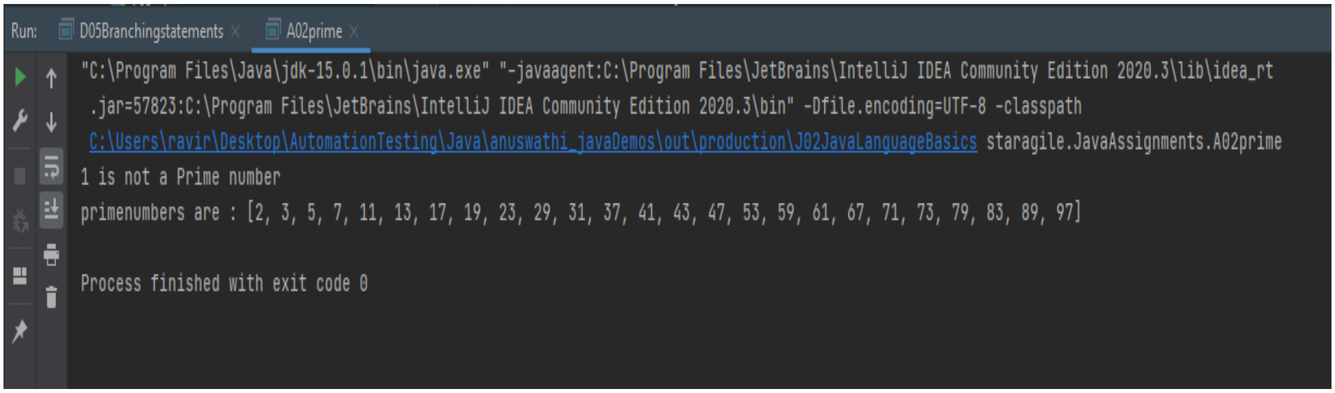
files are up-to-date (moments ago)

2. Write a Java Program to find prime numbers between 1 to 100

```
//    A prime is a natural number greater than 1 that has no
positive divisors other than 1 and itself.
//    For example 2, 3, 5, 7, 11,….. are prime numbers.

public class A02prime {
     public static void main(String[] args) {
        int flag=0;
       List<Integer> primenumbers = new ArrayList<Integer>();
       System.out.println("1 is not a Prime number");
       for(int i=2;i<=100;i++)
       {
           flag=0;
           for(int j=2;j<i;j++) {
               if (i%j == 0) {
                   flag=1;
                   break;
               }

           }
           if (flag== 0) {
               primenumbers.add(i);
//                 System.out.println(i + "is Prime number");
           } else {
```

```
//                    System.out.println(i + "is not prime
number");
              }

          }
        System.out.print("primenumbers are : ");
        System.out.println(primenumbers);

    }
}
```

Output:-



```
"C:\Program Files\Java\jdk-15.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\lib\idea_rt
 .jar=57823:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\bin" -Dfile.encoding=UTF-8 -classpath
 C:\Users\ravir\Desktop\AutomationTesting\Java\anuswathi_javaDemos\out\production\J02JavaLanguageBasics staragile.JavaAssignments.A02prime
1 is not a Prime number
primenumbers are : [2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97]

Process finished with exit code 0
```

3. Write a Java Program to handle given uncheck exception

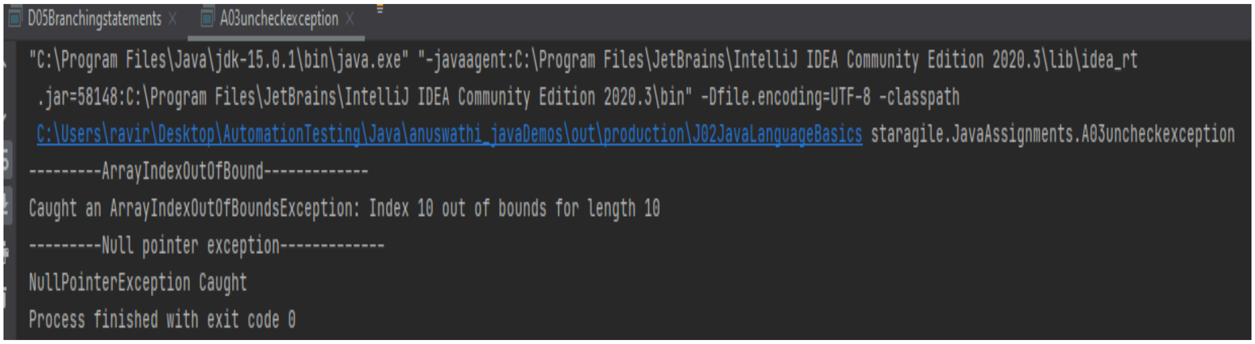
a.ArrayIndexOutOfBound

b.NullPointerException

```
public class A03uncheckexception {
      public static void main(String[] args) {

System.out.println("---------ArrayIndexOutOfBound------------
-");
        String[] arr = new String[10];
        try {
            System.out.println(arr[10]);
        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("Caught an
ArrayIndexOutOfBoundsException: " + e.getMessage());
```

```
        }
        System.out.println("---------Null pointer
exception-------------");
        // Initializing String variable with null value
        String ptr = null;

        // Checking if ptr.equals null or works fine.
        try
        {
            // This line of code throws NullPointerException
            // because ptr is null
            if (ptr.equals("hello"))
                System.out.print("Same");
            else
                System.out.print("Not Same");
        }
        catch(NullPointerException e)
        {
            System.out.print("NullPointerException Caught");
        }
    }
}
```

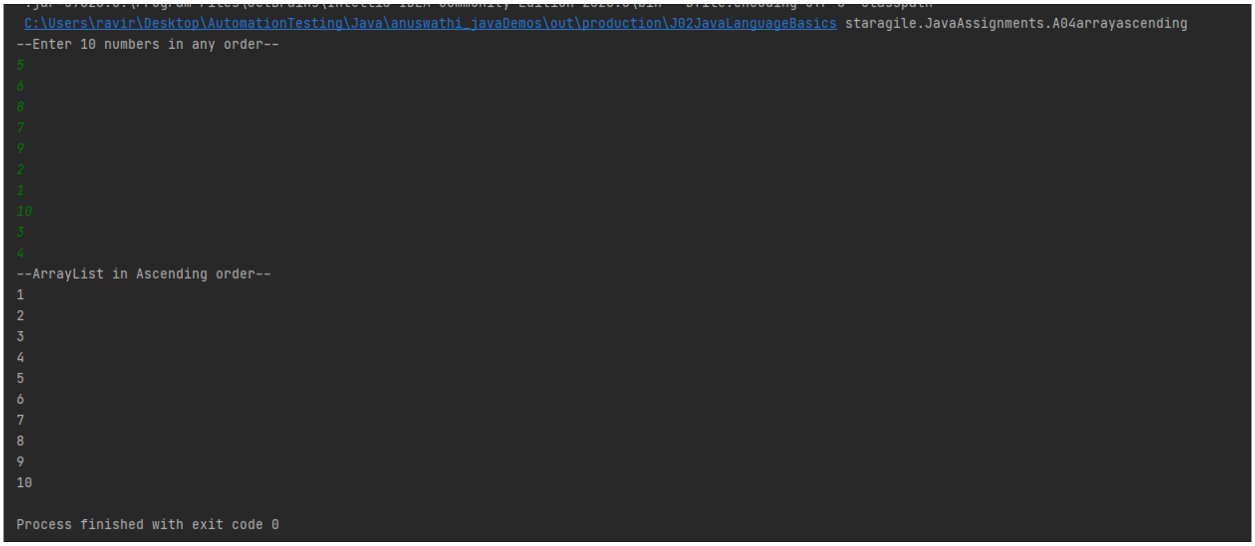
Output:-



```
"C:\Program Files\Java\jdk-15.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\lib\idea_rt
 .jar=58148:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\bin" -Dfile.encoding=UTF-8 -classpath
 C:\Users\ravir\Desktop\AutomationTesting\Java\anuswathi_javaDemos\out\production\J02JavaLanguageBasics staragile.JavaAssignments.A03uncheckexception
---------ArrayIndexOutOfBound------------
Caught an ArrayIndexOutOfBoundsException: Index 10 out of bounds for length 10
---------Null pointer exception------------
NullPointerException Caught
Process finished with exit code 0
```

4. Write a Java Program to sort the ArrayList in Ascending order

```
public class A04arrayascending {
   public static void main(String[] args) {
       int numbers[]= new int[10];
       Scanner scn = new Scanner(System.in);
       System.out.println("--Enter 10 numbers in any
order--");
       for (int i=0;i<numbers.length;i++)
       {
           numbers[i]= scn.nextInt();
       }
       System.out.println("--ArrayList in Ascending
order--");
       Arrays.sort(numbers);
       for (int i:numbers)
       {
           System.out.println(i);
       }
   }
}
```



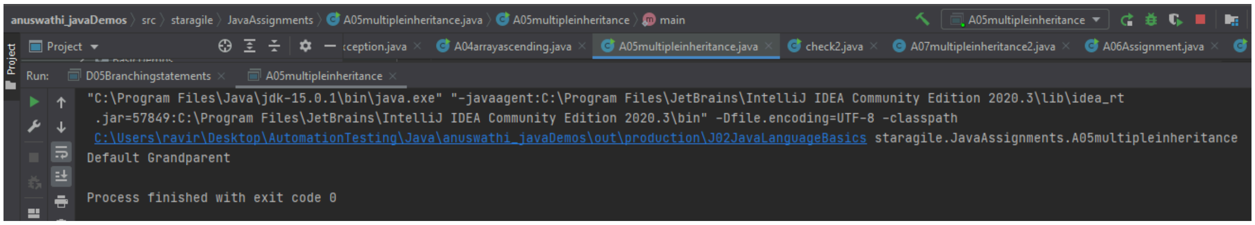
```
 C:\Users\ravir\Desktop\AutomationTesting\Java\anuswathi_javaDemos\out\production\J02JavaLanguageBasics staragile.JavaAssignments.A04arrayascending
--Enter 10 numbers in any order--
5
6
8
7
9
2
1
10
3
4
--ArrayList in Ascending order--
1
2
3
4
5
6
7
8
9
10

Process finished with exit code 0
```

5. Write a Java Program to implement multiple inheritance

```
interface Grandparent {

   // Default method
   default void show()
   {
       // Print statement
       System.out.println("Default Grandparent");
   }
}
interface Parent1 extends  Grandparent{

}
interface Parent2 extends  Grandparent{

}
public class A05multipleinheritance implements
Parent1,Parent2{

   public static void main(String[] args) {
       A05multipleinheritance test = new
A05multipleinheritance();
       test.show();
```

```
        }



}
```

output:-


anuswathi_javaDemos 〉 src 〉 staragile 〉 JavaAssignments 〉 A05multipleinheritance.java 〉 A05multipleinheritance 〉 main
A05multipleinheritance
Project
:ception.java
A04arrayascending.java
A05multipleinheritance.java
check2.java
A07multipleinheritance2.java
A06Assignment.java
Run:
D05Branchingstatements
A05multipleinheritance

```
"C:\Program Files\Java\jdk-15.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\lib\idea_rt
 .jar=57849:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3\bin" -Dfile.encoding=UTF-8 -classpath
 C:\Users\ravir\Desktop\AutomationTesting\Java\anuswathi_javaDemos\out\production\J02JavaLanguageBasics staragile.JavaAssignments.A05multipleinheritance
Default Grandparent

Process finished with exit code 0
```